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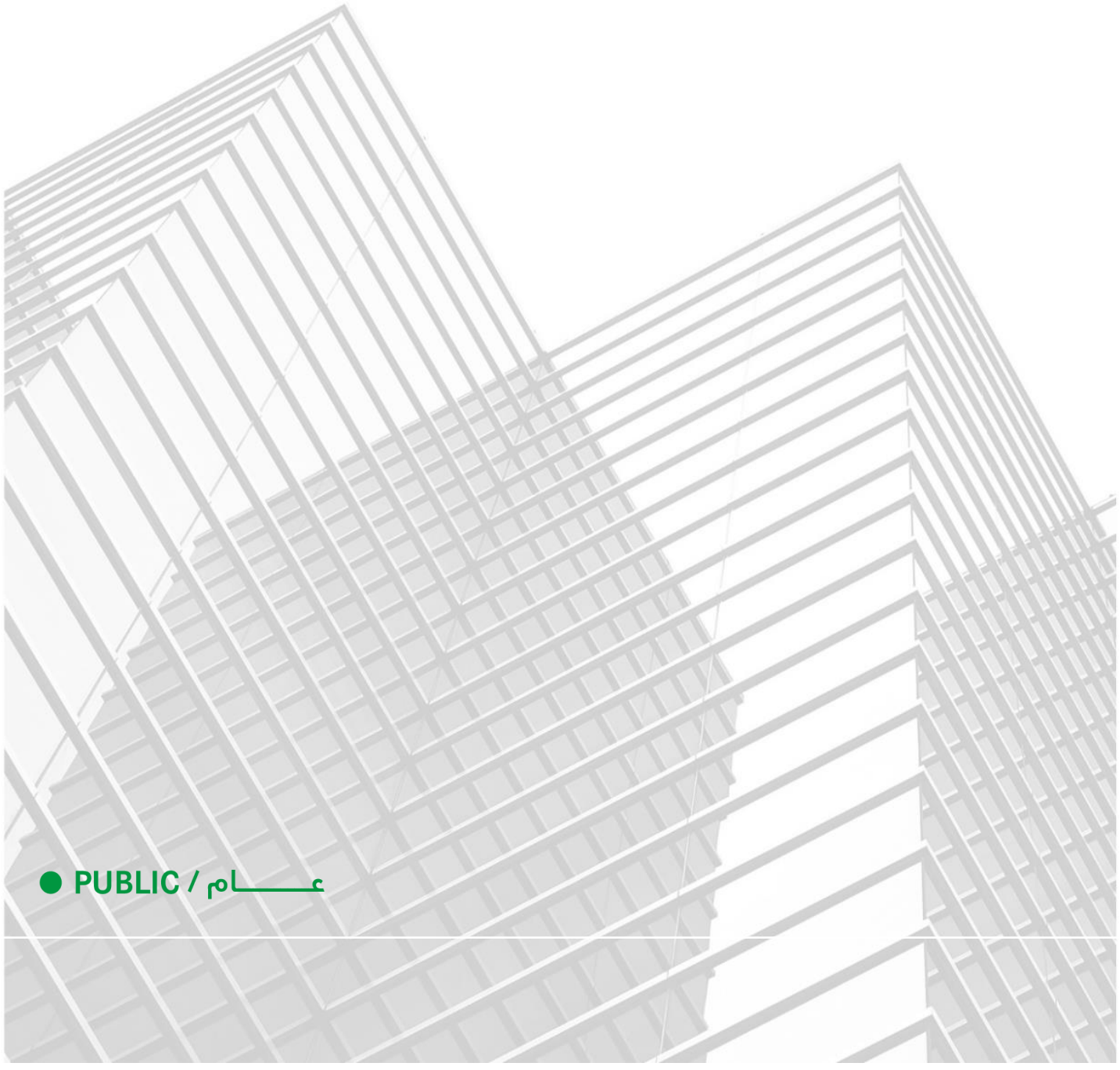
DEPARTMENT OF HEALTH

Burn Management Standard



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1. Standard Scope

Purpose:
A complex burn injury is known to be the most severe form of survivable trauma. If survived, such an injury alters all aspects of an individual's life: their appearance, their ability to function independently in society and consequently their psychological well-being. The UAE is committed to the goal that patients are rehabilitated back to the maximum extent practicable and ensuring that all burn services provided are comprehensive and inclusive of education, vocational, social welfare, acute rehabilitation, and acknowledgement of burn as a chronic disease. The Burn Management Standard represents a key Special Program Pathway (SPP) in Abu Dhabi's Health Emergency Management (HEM) framework coordinated through the Medical Direction System (MDS).

This Burn Management Standard serves as a legal mandate to ensure that burn injury prevention, patient care, and safety in Abu Dhabi adhere to the highest international standards. Through its implementation, the Emirate of Abu Dhabi demonstrates its commitment to supporting burn survivors throughout their recovery and rehabilitation journey. Recognizing the complexity of high severity burn cases and the long-term care needs of burn patients, this Burn Standard establishes mandatory management practices for Abu Dhabi, United Arab Emirates (UAE). These practices align with international best practices for burn patient management.

Scope:
High complexity burn cases and long-term management of burn patients may require equally complex resourcing mechanisms. The objective of this burn standard is to mandate the desired management practices in Abu Dhabi, UAE for burn injury prevention, patient care and safety in line w ith international best practice of burn patient management. The framework encompasses the establishment of a coordinated Emirate Burn Management Service, including the organization and management of burn services; commitment to patient-centered care; facility standards; establishment of a national burn service network; planning for disasters and mass casualties.

2. Definitions and Abbreviations

No.	Term / Abbreviation	Definition
2.1	Advanced Burn Life Support (ABLS)	A standard training course providing basic and advanced care management approaches for burn management provided by healthcare professionals
2.2	Advanced Trauma Life Support (ATLS)	A standard trauma training course for medical professionals who treat trauma patients initially to provide standardized, evidence-based treatment approaches and protocols.
2.3	Burn Center	Burn Centers – This level of patient burn management is for the highest level of injury complexity and includes a separately staffed, geographically discrete ward. The service is skilled to the highest level of critical care and has immediate operating theatre access. It provides comprehensive expertise and consultation on all aspects of burn patient management including management, training, transfers, consultation, prevention, community awareness, research and innovation, rehabilitation, social/ family services, mental health, and outpatient services.
2.4	Burn Intensive Care Unit (BICU)	An intensive care unit dedicated to the management of severe and major burn injuries.
2.5	Burn Unit	A level of in-patient care under the purview of the Abu Dhabi regional or National Burn Center for care of the moderate level of injury complexity, overflow management during crises, and staffed with upskilled healthcare professionals, a dedicated burn ward, and ongoing coordination and consultations with the Burn Center professionals.
2.6	Center of Emergency Preparedness and Response (CEPAR)	CEPAR provides and shares regulatory authority over healthcare emergencies with the appropriate DoH (Department of Health) sectors including Healthcare Facilities, Workforce, Payers, and
2.7	Department of Health (DoH)	Department of Health - Abu Dhabi is the regulative body of the Healthcare Sector in the Emirate of Abu Dhabi and ensures excellence in healthcare for the community by monitoring the health status of the population.

2.8	Emergency Medical Services (EMS) and Ambulance Services System	The operations and regulatory authority over all medical and clinical aspects of pre-hospital Emergency Medical Services (EMS). This includes Medical Direction and may include ambulance call center management and ambulance dispatch. It includes oversight of all inter-facility transfers, oversight of medical/ clinical components and programs for healthcare provided in all patient transport systems.
2.9	Health Emergency Management (HEM)	A framework management model building on the EMIRATES Framework for identifying, preparing for, monitoring, and managing factors that lead to health emergencies. It seeks to recognize, detect, prevent, mitigate, prepare for, respond to, and recover from all healthcare emergencies within a healthcare system using high reliability operations focusing on patient-centered care in their program management. It incorporates comprehensive enterprise risk and business continuity management to ensure continuity of operations and high reliability within the healthcare sector.
2.10	Medical Direction System (MDS)	A system of physician-directed leadership, quality assurance, administrative and medical oversight that provides professional and public accountability for medical care provided in the pre-hospital setting and across the Special Program Pathways. The MDS includes clinical and technical expertise for medical direction and program management.
2.11	Ministry of Health and Prevention (MOHAP)	Ministry of Health and Prevention - is the federal Authority responsible for providing healthcare services.
2.12	National Burn Center	The National Burn Center is designated by the Ministry of Health as a regional Burn Center responsible for collaborating with the regulatory bodies; coordinating the Burn Service Network of care at the national level; development, dissemination, and revision of centralized initiatives such as Burn Management Standards, Clinical Practice Guidelines, Burn Camps, Mass Casualty Response, transport and repatriation, and coordination with and across Burn Units. The National Burn Center also acts as a resource for queries from any of the Burn Service Providers. Ministry of Health and Prevention - is the federal Authority responsible for providing healthcare services. It also plays the role of the primary health regulator for the Northern Emirates.
2.13	National Burn Service Network	The linked group of health professionals and organizations working in a coordinated manner, unconstrained by existing professional and Emirate Health Department/Authority boundaries, to ensure efficient provision of high quality, clinically effective services throughout the country. The National Burn Center, Burn Centers, Units & Facilities form a National Burn Service Network for UAE that strengthens communication and consultation between the units whilst maintaining autonomy. Formal approval and agreements between the respective ministries and authorities ensure commitment to, and recognition of the National Burn Service Network. Participating providers and their level of care provision in the Burn Service Network are published by the respective Departments/Authorities and Ministry of Health and Prevention. The National Burn Center is designated by the Ministry of Health as a regional Burn Center responsible for collaborating with the regulatory bodies; coordinating the Burn Service Network of care at the national level; development, dissemination, and revision of centralized initiatives such as Burn Management Standards, Clinical Practice Guidelines, Burn Camps, Mass Casualty Response, transport and repatriation, and coordination with and across Burn Units.
2.14	Professional Qualification Requirement (PQR)	Educational standards, experience, and licensure requirements for healthcare professionals to be licensed to practice safely in the UAE and in accordance with the UAE federal laws and benchmarked international best practices
2.15	Special Program Pathways (SPP)	Components of the healthcare system required to manage time-critical healthcare emergencies and that require specific training, equipment, and availability. Systems to manage these must be patient-centered, highly reliable, always available 24/7, and optimized for each patient. SPPs often have internationally recognized accreditation/

		certification/ verification organizations that develop and update treatment requirements and data registry sets that allow for performance benchmarking and that drive quality and process improvement.
2.16	Unified Medical Operations Center (UMOC)	DoH operations center run by CEPAR that monitors, facilitates, and optimizes healthcare emergencies in Abu Dhabi.

3. Standard Requirements and Specifications

3.1 Patient Centered, multi-disciplinary Care: A life-altering traumatic experience demands the involvement of all members of the multidisciplinary team to coordinate their activities towards optimum, patient-centered care. The burn patient has unique requirements including wound management, infection control, mental health, and rehabilitation which makes caring for them on a general ward unsatisfactory. For any burn injury, at whatever age, the skills of the multidisciplinary burn team are necessary to optimize survival and recovery.

3.1.1. The treatment goal is to recover the individual to the pre-injury state and for them to return to their place in society with optimized potential. The intention is to maximize recovery in terms of **form** (restoring aesthetic characteristics), **function** (recovery of ability) and **feeling** (psychological recovery for patient and family).

3.1.2. Seamless care throughout the patient's journey coupled with social arrangements and specific care packages on discharge provide the greatest opportunity for the patient. Patients and families shall be supported through promoting family support, functional ability, providing information, and regaining confidence in social interaction.

3.1.3. The points below represent minimum requirements for providing care.

3.1.3.1. Each patient shall be admitted under the care of a named **consultant** who is responsible for coordinating that patient's care utilizing the multi-disciplinary teams to its fullest extent to maximize patient outcome.

3.1.3.2. In addition, one member of this multi-disciplinary team shall provide an accessible contact point for the patient or family. This need not necessarily be the named consultant. This person (or their designee) shall be easily contactable.

3.1.3.3. The clinical care plan for each patient shall involve a regular (minimum weekly) multidisciplinary review with involvement and input from all members of the multidisciplinary team. Whilst consideration shall be made to the wishes of the family and carers, the needs and wants of the patient remain paramount. An example of a multidisciplinary team includes burn surgeons, ICU (Intensive Care Unit) physician, pediatric physicians, and child life (when appropriate), nursing, dietician, physical therapy, occupational therapy, rehabilitation physician, respiratory therapy, psychology/psychiatry, pharmacist, program manager, research coordinator, case management, social work, and other members as needed.

3.1.3.4. Burn care services shall be arranged so that the patient moves from critical/acute care to rehabilitation and then to home in a systematic, organized, and planned manner as guided by the above multidisciplinary meetings. Planning should recognize that at least 75% of discharged patients require long term follow up. The length of follow-up depends on requirements for long-term care, for example, children require follow-up to adulthood and adult patients until scar maturation (generally 3 years).

3.1.3.5. Patients shall have routine, formal access to acute psychological and psychiatric services. In addition, their families and staff working within the burn service should have similar access to psychological support.

3.1.3.6. Specialized burn services may be significant distances away from the family home. Professional, certified social workers shall provide coordination of care including Home Care and family communication for these cases.

3.1.3.7. Ideally, patients, relatives, and staff should be made aware of and have access to appropriate support groups where they can interact with other burn patients and receive peer support.

3.2. Access, Assessment and Referral:

3.2.1. Specialty burn care and associated facilities should be available to all patients irrespective of geographical location. Emergency Medical Services (EMS) transport or interfacility transfer from a local hospital to the required level of burn care provider, dependent on the level of complexity, shall be guided by the below criteria/thresholds and shall occur without unnecessary delay.

3.2.1. Thresholds for pediatric and adult transfer criteria are attached in Appendix 9.1

3.2.3. Burn Centers shall be always available to provide advice regarding the management of burns including transfer via an On-Call Burn Surgery Specialist or Consultant.

3.2.4. Professionals within the burn centers who deal with acute burns are credentialed by the burn center/unit and licensed by the relevant Department of Health authority and shall follow Emirate guidelines for the treatment and referral of patients.

3.2.5. To facilitate the care of burn patients by all levels of care, the following is recommended as a minimum standard:

3.2.5.1. Clear Emirate Burn referral guidelines shall be disseminated to all primary, secondary, and tertiary healthcare providers. The responsibility for designing, regularly reviewing, and disseminating these guidelines lies under the Regional Burn Center in liaison with the DoH.

3.2.5.2. Advice or consultation to hospitals and clinicians not credentialed to care for burns shall be available via either a Burn Surgery Specialist or Consultant based in Burn Centers. Advice shall be available 24/7 and continue to be available until the patient is directly under the care of the respective burn center. Coordination shall be through the Unified Medical Operations Command Center (UMOC).

3.2.5.3. Advice or consultation regarding the initial assessment, management, and subsequent transfer of a patient from a local hospital to either a Burn Unit or Burn Center shall take advantage of all available means of communication. On occasions when emergency care (E.g.: escharotomies) needs to be performed by a non-credentialed professional, maximum use of technology to facilitate communication between the burn professional and the bedside caregiver shall be utilized. This shall be available through the UMOC.

3.2.5.4. Initial assessment, management, triage and preparation for transfer and final disposition shall follow established Advanced Burn Life Support (ABLS) guidelines. The final disposition of the patient shall be guided by the above criteria/thresholds described. Other non-burn injuries, although infrequent, need to be assessed and stabilized before onward transfer according to ABLS and Advanced Trauma Life Support (ATLS) guidelines.

3.3. Acute Burn Care:

3.3.1. Management starting at the accident scene and during transfer to hospital shall be provided according to ABLS guidelines. Management of any concomitant traumatic injuries in the Emergency Departments shall be provided in accordance with ATLS and local emergency guidelines.

3.3.2. Care for the acutely injured shall be undertaken by appropriately trained and credentialed professionals. Credentialing processes are currently undertaken at a hospital level by individual professional groups.

3.3.3. The following represents minimum requirements for centers that can provide the care:

3.3.3.1. There shall be direct access to and clinical support from an appropriate Burn ICU.

3.3.3.2. There shall be an access to suitably staffed operating theaters (surgeons, anesthetists, and nurses) to allow early debridement of the burn. At times, this may require access to an operation during after-hours or on the weekend.

3.3.3.3. Burn Intensive Care Units (BICU) should have at least two individual, thermally regulated rooms able to regulate to 30 Celsius.

3.3.3.4. Staffing numbers should be based on levels of patient's dependency and acuity rather than bed numbers alone. Burn ICUs may have mixed acuity ranging from critical care to ward and require flexibility to match the level of physician and nursing care to the patient requirements.

3.3.3.5. In Burn Centers, funding shall be available for the use of advanced tissue/wound healing products in the management of burn injuries within nationally agreed guidelines. At minimum, patients should have access to temporary skin substitutes including allografts.

3.3.3.6. Sufficient consultant anesthetic time shall be allocated to allow regular pain control ward rounds and provide support and assistance for major dressing changes outside of the operating theater.

3.4. Rehabilitation and Follow-up:

3.4.1. The goal for the multi-disciplinary burn team is to assist an individual with a burn injury to return to society with the maximum physical functioning, vocational and psycho-social well-being that their burn injury shall permit. A critical part of this goal is the continuing care of patients after the acute phase of their care. Individual patients may need to return to the operating theater on many occasions, often months or even years after the original event. Where possible and practical, this team's organizational structure shall remain constant so that future care is planned and carried out in a coordinated and timely fashion.

3.4.2. The following represents a minimum standard for centers/units:

3.4.2.1. Intensive in-patient rehabilitation shall be part of a multidisciplinary and multi-specialty service.

3.4.2.2. All patients discharged shall receive appropriate follow-up for their burn injury from the multidisciplinary team. This shall include every attempt to do so for patients who are repatriated. Telemedicine and apps shall be utilized when appropriate for follow up.

3.4.2.3. Administrative delays should be minimized such that there are no delays in readmitting patients after the index hospitalization discharge for any post-burn intervention. This may include further surgery, physical rehabilitation, scar management, psycho-social support, or prosthetics. Future Service Level Agreements for burn care should include sufficient allowance to accommodate the needs of all post-burn patients for post-burn episodes of care.

3.4.2.4. The patient should receive follow-up care, reconstructive surgery, and rehabilitation in the most appropriate setting. At certain times, it may be necessary for the patient to be re-referred to the Burn Center for follow-up treatment, rehabilitation or reconstructive surgery if deemed necessary and appropriate. Policies shall be developed outlining financial arrangements for the patient and their family during periods of readmission and re-referral to burn centers.

3.4.2.5. Outpatient attendances for both Consultant and therapy services should continue if they are deemed to be necessary by the provider of burn care. This often continues for years after injury and becomes similar to the care for chronic diseases.

3.4.2.6. Each burn center shall have appropriate services to provide care and advice to patients in a hospital nearer to their home or, ideally, in their own home. This 'outreach' service will require additional resources including personnel and funding.

3.4.2.7. Care is organized so that patients shall follow a care pathway within the burn network.

3.4.2.8. Essential facilities and equipment for rehabilitation shall be provided and all patients shall receive comprehensive information on the rehabilitation process and their individual programs.

3.4.2.9. There should be a work/school re-integration program available to patients, working with social-rehabilitation assessors.

3.5. Psycho-Social Rehabilitation:

Psychological adjustment of the individual and their family after surviving a burn injury takes time, but time is no guarantee of success. The following critical factors shall be addressed:

3.5.1. Ensuring that there are good support systems/networks in place for patients to rebuild their self-esteem and self-belief.

3.5.2. Enabling patients to overcome their functional limitations.

3.5.3. Enabling patients to be informed about surgical and non-surgical treatment options, support groups, physical conditioning, etc.

3.5.4. Enabling patients to acquire effective social skills to manage the reactions of the public, their school peers, or employers to their changed appearance and physical limitations.

3.5.5. The following represent the minimum requirements:

3.5.5.1Patient care plans shall include a psycho-social assessment.

3.5.5.2 Where the need is identified, patients shall receive a tailored psycho-social rehabilitation program monitored on an ongoing basis.

3.6. Reintegration:

3.6.1. The following represents a minimum standard for centers/units:

3.6.2. The burn centers and units shall have comprehensive written policy and procedure for discharge and referral to:

- 3.6.2.1 Other hospitals including rehab facilities.
- 3.6.2.2 Social Services
- 3.6.2.3 Community services
- 3.6.2.4 Caregivers – family or in-home assistants
- 3.6.2.5 Support groups

3.6.3. A comprehensive work/ school re-entry program shall be available, working with social work and case management.

3.6.4. Providing appropriate accommodation, equipment, personnel, and finance shall be made to meet the individual's immediate needs to ensure safe discharge working with Case Manager.

3.7. **Readmission:** The following represents minimum requirement for centers/units:

3.7.1. All patients shall have the opportunity for readmission to the burn service network or other appropriate facilities for scar management, release of contractures, reconstructive surgery, etc.

3.7.2. Burn service network providers shall have policies outlining financial options for the patient and their family during periods of readmission and re-referral to burn units/ centers.

3.7.3. Policies shall be developed in coordination with the relevant health authorities/departments, insurers, burn centers/units, and hospitals to ensure that expected continuity of burn care is financially provisioned for and readmissions and chronic care are expected components of comprehensive burn treatment.

3.8. Services for Children and Young People (<16 years):

The following represents the minimum requirements for burns units/centers:

3.8.1. Consultant surgeons, anesthetists and intensivists involved in the care of children and young burn patients must be suitably credentialed and licensed to provide care to the pediatric population.

3.8.2. Because of the complexity of the burn injury, the child or young person should be admitted to an area in the burn center that is 'child-friendly'. There should be designated pediatric rooms/ areas within burn centers with appropriate resources for caring for pediatric patients where it is in the scope of services of that provider.

3.8.3. Each child with a burn injury should have access to a comprehensive play, education, and recreation program provided by the hospital play/recreation specialists with knowledge and skills for working with children, young people, and families in a burn facility.

3.8.4. Arrangements shall be made for all recovering patients of school age to have access to appropriate teaching to maintain scholastic ability.

3.8.5. A community re-entry program, which includes a school re-entry component, shall be made available, arranged in conjunction with the social work and case management.

3.8.6. Facilities shall be available to facilitate the parent/caregiver being near the child. This includes an area to sleep adjacent to the child and the provision of simple meals.

3.8.7. Burn care services should be arranged so that the patient and family move from critical/acute care to rehabilitation and home in a systematic organized and planned way through a pediatric care pathway and/or local burn care network.

3.8.8. There should be a key worker in each burn unit/center who is responsible for offering access to a Burn Camp.

3.8.9. Burn Camps are developed and coordinated by the Burn Center in collaboration with the local health authority/ department for children to learn to communicate, socialize and work together towards common goals through a structured, relaxed kind of environment program. A Burn Camp is a social camp for pediatric burn patients that should be provided regardless of ability to pay.

3.9 Facilities: A Burn Center shall develop, manage, and maintain operational oversight of the Burn System through the following actions and tools:

3.9.1 Facility and Staffing Standards of Care for Burn Management, Protocols, Clinical Pathway Guidelines, direction on adjustments for management of overflow of severe cases, management of moderately severe cases, and outlying hospital coordination supporting the Burn System. Actions will include but are not limited to the following:

- 3.9.1.1 Patient-centered Care using outcomes as the main determinant of quality.
- 3.9.1.2 Muli-disciplinary Teams with dedicated staff trained in advanced burn care.
- 3.9.1.3 Inter-reliant Services integrating sub-specialization of disciplines, surgical procedures, and coverage with the regional Burn Center.
- 3.9.1.4 Facilities, Resources, and Environment upskilled in Burn Care
- 3.9.1.5 Policies and Procedures specific to Burn Management
- 3.9.1.6 Clinical Governance specific to Burn Management
- 3.9.1.7 Network and National Arrangements across the Abu Dhabi Burn System.
- 3.9.1.8 Shall pursue and attain American Burn Association Center Criteria (Appendix 9.1.6). These criteria are updated regularly, must be checked against the current version which shall include but is not limited to the following:
  - 3.9.1.8.1 Burn Center Administration with dedicated Program Management, staff, equipment, and systems.
  - 3.9.1.8.2 Burn Center Volume sufficient to meet accreditation requirements and maintain competency of care.
  - 3.9.1.8.3 Burn Center Director with a commiserate level of administrative and clinical time dedicated to running the Burn Service and Center.
  - 3.9.1.8.4 Burn Surgeons dedicated full time to the Burn Service with appropriate administrative time for non-clinical Burn Center required activities.
  - 3.9.1.8.5 Nursing skilled and trained in advanced burn care.
  - 3.9.1.8.6 Therapy includes speech, occupational, mental health, play and physical disciplines.
  - 3.9.1.8.7 Burn Team Members including but not limited to Anesthesia and Critical Care Consultants dedicated to the Burn Service
  - 3.9.1.8.8 Quality Improvement in accordance with accreditation requirements.
  - 3.9.1.8.9 Pre-hospital Care integrated into Abu Dhabi the Burn Management System
  - 3.9.1.8.10 Emergency Department trained in advanced burn care.
  - 3.9.1.8.11 Intensive Care Unit dedicated to Burn Patients and their management.
  - 3.9.1.8.12 Operative Services dedicated to Burn Care
  - 3.9.1.8.13 Rehabilitation dedicated to Burn Care
  - 3.9.1.8.14 Ambulatory Care in accordance with ABA accreditation requirements for long term outpatient follow-up and consultation
  - 3.9.1.8.15 Community Reintegration

3.9.1.8.16 Prevention & Outreach including community and primary education systems.
3.9.1.8.17 Advocacy & Research
3.9.1.8.18 Disaster Planning

3.10 National Burn Service Network

To ensure the success of the Network, the following represent the core governing principles fundamental to its development:

3.10.1 The Network must be a truly multi-disciplinary/ multi-professional entity with representation from all the burn units.

3.10.2 There should be an agreed structure to this network between the constituent groups to ensure that all groups have access to other members of the network that they need, and that there are clear lines of communication and service delivery.

3.10.3 The goals of the Network include improvement of the delivery and outcome of burn care across the country either via optimization of existing services or the establishment of new ones (e.g.: Burn injury care pathways).

3.10.4 There should be regular audit and review processes to ensure that these goals are achieved.

3.10.5 The Network should promote consistent evidence-based guidelines within burn centers and, where deficient, be committed to developing them through appropriate research and development.

3.10.6 All members of the Network shall endeavor to participate in a shared National Burns Data Repository (registry) and shall ensure this is populated accordingly with burn patient data. This shall provide a rich source of benchmarking data for quality improvement initiatives, monitoring changes over time as interventions are introduced and the provision of large cohorts for research purposes.

3.10.7 Continuing professional development shall be another goal. Staff development and education is fundamental to the delivery of optimum care to the patient and their families. To this end, ongoing support for approved (by consensus) programs and support for relevant local research projects shall be a fundamental role of the Network.

3.10.8 The network should also facilitate the movement of staff between burn units and the centers as well as into local hospitals to facilitate communication and the delivery of patient care. Maximum use of available technologies to facilitate this is to be encouraged (e.g: telemedicine consultation).

3.10.9 The Network should hold at a minimum a biannual meeting to look at the following:

- 3.10.9.1 A statistical review and audit of outcomes looking at all areas of burn service delivery: pre-hospital, acute, surgical, rehabilitation.
- 3.10.9.2 Review of transfers and logistics
- 3.10.9.3 Guideline development and review of current guidelines
- 3.10.9.4 Review of wound dressings, new products, and medication
- 3.10.9.5 Development of outcomes indicators

3.10.10 At a minimum, there should be Consultant representation, a Lead Nurse/Manager and Allied Health representative from each burn unit and the Center who shall attend the annual network meetings.

3.11 Education and Training:

3.11.1 There shall be a program of continuing professional development for all staff working in alignment with the National Burn Service Network to ensure a proper understanding of, and compliance with, local, national, and international guidelines, and integrated care pathways to ensure competence and a uniformly high standard of care.

3.11.2 National Guidelines should be developed and aligned through a National Burn Service Network, with a National Burn Center and the relevant regulatory bodies, and s be available for the education and training needed in primary and secondary care.

3.11.3 The National Burn Service Network should offer an education program to relevant health professionals that includes the treatment of minor burns and post admission care of more severely burned patients.

3.11.4 All staff working in alignment with a National Burn Service Network should have access to a library service and internet resources including relevant and current burn literature.

3.11.5 All staff working in burns should have documented evidence that their continuing education program is linked to annual appraisal/Performance Review.

3.11.6 Training programs should include attendance at and advanced burns courses (may include ABLS/ Inter burns course or equivalent) for all medical, nursing, and therapy staff.

3.11.7 Attendance at international meetings is encouraged to maintain continuing professional development standards.

3.12 Research and Development:

3.12.1 The Burn Center Director shall also be responsible for Research and Development to coordinate and liaise research programs aligned with the network. This role may be reviewed during the biannual meeting of the National Burn Service Network and may be rotated every three years (or sooner if required). Research shall be funded adequately.

3.12.2 The National Burn Service Network should have a program of research projects in Burn Care and include all national data so that statistically relevant data is produced.

3.12.3 Programs of research shall demonstrate:

3.12.3.1 Inter-network research

3.12.3.2 Multi-disciplinary research

3.12.3.3 Independent, small project research

3.12.3.4 Involvement with academic departments

3.12.4 Clinical burn staff shall have access to reports generated by the appropriate Burn Data Registry and can request specific reports and data.

3.12.5 Research outcomes should ideally result in measurable improvements to patient care. Other desired outcomes of research include presentation at either national and international meeting(s), publication in peer-review journals, or the award of a higher degree to the researcher.

3.12.6 The National Burn Service Network Director should strive to expand the academic links and profile of UAE burn care, nationally and internationally.

3.13 Burn Disaster/Mass Casualty Planning:

3.13.1 Management of mass burn casualties presents a unique challenge because of their high and continued demand on the resources of the treating facility (e.g. the requirement for isolation, multiple operations, long lengths of ICU stay and physiological instability of the patient).

3.13.2 Various plans are required to meet the majority of possible scenarios. These plans need to be in place within each burn unit and Burn Center and consist of the following:

3.13.3 A capacity plan which identifies the number of burns, and at what acuities each unit can manage safely and appropriately. The capacity of each unit shall be expected to fluctuate and shall be dependent on resource levels (staffing – medical and nursing) and physical constraints (beds available at required level of care) at the time of the disaster. This shall be an internal plan only, and each unit/center should be responsible for its development.

3.13.4 The burn units and Burn Centers need contingency plans in place for times when they cannot accept referrals due to lack of capacity or resources. This shall not be a disaster-type scenario but a plan to cover the expected fluctuations in capacity because of varying resource levels (i.e. staffing and physical). Three plans are managed through Burn Centers coordinating with the medical operations center and include the following:

3.13.4.1 Burn Center ICU bed required.

3.13.4.2 Burn Center complex burn bed required.

3.13.4.3 Burn Center high complex burn bed required.

The next level of planning falls into the burn's disaster-type scenario and/or planning for mass casualties. The Burn Center and burn units need to ensure that there is an agreed process for creating physical capacity and increasing medical and clinical resources in a disaster, and that these plans are included within their hospital Emergency Response Plans. DoH shall provide guidance on the number of casualties planning should accommodate.

3.13.6 The UAE Burns Service Network, in liaison with relevant health authority/department and Ministries, shall have access to all the network surge capacities and have a list of designated services that could accommodate lower levels of burn care.

4. Key stakeholder Roles and Responsibilities

This standard is based on international standards and best practices to allow effective local, regional, and international benchmarking and the performance improvement/ quality assurance of clinical care. Adherence to these requirements drives common standards and interoperability across the Abu Dhabi Burn System and compliance with international standards and best practices and alignment with accreditation requirements. Governance of the policies, protocols, and processes is through DoH sponsored Task Forces.

5. Monitoring and Evaluation

Monitoring of the Key Performance Measures of Burn Centers shall be done through centralized registries and operational monitoring, following the ABA accreditation standards.

6. Enforcement and Sanctions

Failure to adhere to the requirements of this Standard can impact the medical care of patients within the Burn System, and may result in fines and/or disciplinary actions by the DoH in accordance with the healthcare sector disciplinary regulation.

7. Relevant Reference Documents			
S. No.	**Reference Date**	**Reference Name**	**Relation Explanation / Coding / Publication Links**
1		DOH Health Emergency Management Policy for Abu Dhabi	https://www.doh.gov.ae/en/resources/standards
2		DOH Standard for Special Program Pathways (SPP) in Abu Dhabi	https://www.doh.gov.ae/en/resources/standards
3	Dec 2023	DOH Medical Direction Systems (MDS) Standard	Medical Direction System Standard for technical supervision of time-critical healthcare emergencies in Abu Dhabi/ https://www.doh.gov.ae/-/media/DBDCA02AE4AB443685BBEB941175C9D8.ashx
	Nov 2023	Abu Dhabi Ambulance and EMS Standard	Standard describing requirements for patient transport services in Abu Dhabi/ https://www.doh.gov.ae/-/media/F8647B708EDE4AFD87FEB6A024F2E907.ashx
4	2024	American Burn Association	Verification Criteria – American Burn Association (ameriburn.org)
5	2021	DOH Standard for Homecare Health Services in the Emirate of Abu Dhabi	Standard for requirements for caring for patients in home environments outside of hospitals/ https://www.doh.gov.ae/-/media/2A9E924A008744B797D97428AA3D2135.ashx
6	Feb 2024	DOH EMS Clinical Protocols	Clinical treatment protocols for all patient transport services in Abu Dhabi/ https://www.doh.gov.ae/-/media/CECB13E1AC3C4401B3DA00B01139E94C.ashx

8. Appendices

8.1. Thresholds for Referral/Transfer to Burn Units/Centres

8.1.1. Thresholds for Referral to Pediatric Burn Services (1):

Criteria		Unit Threshold	Center Threshold	Note
TBSA	**Refer**	<15%	≥15%	
	Discuss		≥10%	
Depth	**Refer**	All full thickness burns.	≥20% TBSA if Full Thickness	All burns that are not blanching should be referred to a specialized burn service
Site	**Refer**	Any significant burn to special areas (hands, feet, face perineum or genitalia)		"Significant" can mean any injuries where the referrer feels that greater MDT expertise is required
		Any circumferential burn		
Mechanism	**Discuss**	Any chemical, electrical, friction burn. Any cold injury.		
Other Factors	**Refer**	Any predicted or actual need for HDU / PICU (including those predicted to require support for reasons other than the burn injury – e.g. smoke inhalation)	All those are predicted to require assisted ventilation specifically for their burn injury for more than 24 Hours.	Any child requiring assisted ventilation for >24 Hours must be within a Pediatric Intensive Care Unit. All children with smoke inhalation (irrespective of burn injury) should be referred to a PICU with a specialized burn care service on site.

8.1.2. Thresholds for Referral to Pediatric Burn Services (2):

Other Factors	**Refer**	Any significant deterioration in physiology.	Any child who is physiologically unstable as a result of burn injury	Suggested parameters for physiologically unstable are:
		Any burn with suspicion of non- accidental injury should be referred to a Burn Unit/Center for expert assessment within 24 hours		Requirement for Inotropic support Requirement for renal support or with deteriorating renal function
				A base deficit >5 and deteriorating

				An oxygen requirement >Fi02 of 50% and increasing, especially with abnormal C02 / respiratory rate
	Discuss	Any burn not healed in 2 weeks. Unwell/febrile child with a burn Any concern regarding burn injury any co- morbidities that may affect treatment or healing of the burn. All children with Major Trauma + Burn Injury (post treatment within Major Trauma Center) where the burn injury meets unit level thresholds. **Any** burn injury in a neonate should be discussed with a Burn Unit or Center	All children requiring respiratory support. All children with Major Trauma + Burn Injury (post treatment within Major Trauma Centers) where the burn injury meets center level thresholds. **Any** burn injury in a neonate should be discussed with a Burn Unit or Center	The treatment of children with Major Trauma + Burn Injury should be agreed between the Trauma service and the appropriate specialized burn service. Neonates should only be admitted to burn services with an onsite NICU

8.1.3. Thresholds for Referral to Adult Burn Services (1):

Criteria		Unit Threshold	Center Threshold	Note
TBSA	**Refer**	<30% <20% with inhalation	≥30% ≥20% with inhalation injury	The minimum indication for Inhalation Injury is defined as – Visual evidence of suspected upper airway smoke inhalation, laryngoscopic and/or bronchscopic evidence of tracheal or more distal contamination/injury or unconscious at scene with suspicion of inhalation or raised COHb.
				If there are any concerns regarding inhalation injury with a patient with any size burn, then it should be discussed with a Burn Care Center
	Discuss		≥25% for adults ≥15% for geriatrics	Special Consideration should be given to referring patients >65 yrs with ≥25% TBSA (especially where there are co-morbidities) to the Burn Care Center
Depth	**Refer**	Any full thickness burns		All burns that are not blanching should be referred to a specialized burn service
Site	**Refer**	Any significant burn to special areas (hands, feet, face, perineum, genitalia) Any non-blanching circumferential burn		"Significant" can mean any injuries where the referrer feels that greater MDT expertise is required
Mechanism	**Discuss**	Any chemical, electrical, friction burn. Any cold injury		
Other Factors	**Refer**	Any burn not healed in 2 weeks.		

		Any predicted or actual need for HDU or ITU level care		
		Any burn with suspicion of non-accidental injury should be referred to a Burn Unit / Center for expert assessment within 24 hours		

8.1.4. Thresholds for Referral to Adult Burn Services (2):

Criteria		Unit Threshold	Center Threshold	Note
Other Factors	**Discuss**	Any burn not healed in 2 weeks. Any concern regarding burn injury and co-morbidities including any co-morbidities that may affect treatment or healing of the burn. Patients who are pregnant All patients with Major Trauma + Burn Injury (post treatment within Major Trauma Center) where the burn injury meets unit level thresholds.	All patients with Major Trauma + Burn Injury (post treatment within Major Trauma Center) where the burn injury meets center level thresholds. Patients assessed as requiring end of life care should be discussed with a Consultant Burn Specialist at a Burn Center (to discuss the appropriateness of local palliative care versus transfer to a center).	The treatment of patients with Major Trauma + Burn Injury should be agreed between the Trauma service and the appropriate specialized burn service (in accordance with the TBSA, Depth, Site and Mechanism criteria listed above)

8.1.5. Standards Check List for Centres
Verification Criteria – American Burn Association (ameriburn.org)

8.1.6. Professional Qualification Requirements (PQR) for Burn Unit Surgeons and Critical Care
Will evolve in coordination with the Ministry of Health and Prevention (MOHAP), and include specific training, skillsets, and experience related to the management of burn patients.