NATIONAL INSTITUTE FOR HEALTH SPECIALITIES

NIHS Program Requirements for Specialty Education in Trauma Surgery and Surgical Critical Care (Emirati Board in Trauma Surgery and Surgical Critical Care)

The Emirati Board in Trauma Surgery and Surgical Critical Care is expected to define its specific program aims consistent with the overall mission of its Sponsoring Institution, the needs of the community it serves and that its graduates will serve, and the distinctive capabilities of physicians it intends to graduate. The Program must demonstrate substantial compliance with the Common and specialty-specific Program Requirements.

Where applicable, text in italics describes the underlying philosophy of the requirements in that section. These philosophic statements are not program requirements and are therefore not citable.

Draft Version 1

4/7/2025

Table of Contents

Introduction 2
Int. A. Preamble 2
Int. B. Definition of Specialty 2
Int. C. Length of Educational Program 3
I. Oversight 3
I.A. Sponsoring Institution 3
I.B. Participating Sites 3
I.C. Recruitment 6
I.D. Resources 6
I.E. Other Learners and Other Care Providers 8
II. Personnel 9
II.A. Program Director 9
II.B. Faculty 13
II.C. Program Coordinator 16
II.D. Other Program Personnel 16
III. Fellows Appointments 17
III.A. Eligibility Requirements 17
III.B. Number of Fellows 18
III.C. Fellows Transfers 18
IV. Educational Program 18
IV.A. Curriculum Components 19
IV.B. Defined Core Competencies 19
IV.C. Curriculum Organization and Fellow Experiences 31
IV.D. Scholarship 35
IV.E. Independent Practice 36
V. Evaluation 37
V.A. Fellow Evaluation 37
V.B. Faculty Evaluation 40
V.C. Program Evaluation and Improvement 41
VI. The Learning and Working Environment 43
VI.A. Patient Safety, Quality Improvement, Supervision and Accountability 43
VI.B. Professionalism 48
VI.C. Well-Being 49
VI.D. Fatigue Mitigation 51
VI.E. Clinical Responsibilities, Teamwork, and Transitions of Care 51
VI.F. Clinical Experience and Education 53
Appendix 1 57
Case minimums 57
Acknowledgment 62

Introduction

Int. A. Preamble

Fellowship is advanced graduate medical education beyond a core residency program for physicians who desire to enter more specialized practice. Fellowship-trained physicians serve the public by providing subspecialty care, which may also include core medical care, acting as a community resource for expertise in their field, creating and integrating new knowledge into practice, and educating future generations of physicians. Graduate medical education values the strength that a diverse group of physicians brings to medical care.

Fellows who have completed residency are able to practice independently in their core specialty. The prior medical experience and expertise of fellows distinguish them from physicians entering residency training. The fellow's care of patients within the subspecialty is undertaken with appropriate faculty supervision and conditional independence. Faculty members serve as role models of excellence, compassion, professionalism, and scholarship. The fellow develops deep medical knowledge, patient care skills, and expertise applicable to their focused area of practice. Fellowship is an intensive program of subspecialty clinical and didactic education that focuses on the multidisciplinary care of patients. Fellowship education is often physically, emotionally, and intellectually demanding, and occurs in a variety of clinical learning environments committed to graduate medical education and the well-being of patients, residents, fellows, faculty members, students, and all members of the health care team.

In addition to clinical education, many fellowship programs advance fellows' skills as physician-scientists. While the ability to create new knowledge within medicine is not exclusive to fellowship-educated physicians, the fellowship experience expands a physician's abilities to pursue hypothesis-driven scientific inquiry that results in contributions to the medical literature and patient care. Beyond the clinical subspecialty expertise achieved, fellows develop mentored relationships built on an infrastructure that promotes collaborative research.

Int. B. Definition of Specialty

The Trauma Surgery and Surgical Critical Care fellowship is a general surgery subspecialty that encompasses three broad areas: 1) surgical critical care, 2) the care of traumatically injured patients, and 3) the acute care surgical needs of patients.

The practice of trauma surgery is both the ability to intervene in the setting of life-threatening injuries or illnesses and to coordinate care amongst a multitude of medical and surgical services for patients. Furthermore, the trauma surgeon must be proficient in the resuscitation and ICU management of the poly-trauma injured patient.

As a surgical critical care intensivist, the surgeon is required to have knowledge and experience for the assessment and management of severe conditions that are beyond the scope of typical general surgical residency training. To provide optimal comprehensive care, the surgeon must effectively function in interprofessional and multidisciplinary teams, often in the leadership role.

Upon completion of the fellowship the trauma surgeon should have a strong foundation of knowledge related to the care of the traumatically injured and severely ill. The trauma surgeon must have a robust surgical skill set to be able to deliver efficient and effective care in a multitude of different environments, from a well-resourced facility in an urban setting to an austere facility in a remote setting. Finally, the trauma surgeon must be a leader in the field of trauma and the expert in trauma system development.

Int. C. Length of Educational Program

The educational program in Trauma Surgery and Surgical Critical Care must be 36 months in length. (Core)

I. Oversight

I.A. Sponsoring Institution

The Sponsoring Institution is the entity that assumes the ultimate financial and academic responsibility for a program of graduate medical education, consistent with the NIHS Institutional Requirements.

The Sponsoring Institution must be the primary clinical defined as the most utilized rotation site of clinical activity for the program.

Background and Intent: *Participating sites will reflect the health care needs of the community and the educational needs of the fellows. A wide variety of organizations may provide a robust educational experience and, thus, Sponsoring Institutions and participating sites may encompass inpatient and outpatient settings.*

I.A.1. The program must be sponsored by one NIHS-accredited Sponsoring Institution. (Core)

I.B. Participating Sites

A participating site is an entity that provides educational experiences or educational assignments/rotations for fellows.

I.B.1. The program, with approval of its Sponsoring Institution, must designate a primary clinical site. (Core)

I.B.1.a) The Sponsoring Institution must establish the trauma surgery and surgical critical care fellowship within the department of general surgery or an administrative unit whose primary mission is the advancement of Trauma Surgery and Surgical Critical Care education and patient care. (Core)

I.B.1.b) When general surgery residents and trauma surgery and surgical critical care fellows are being educated at the same participating site, the residency director and fellowship director must jointly prepare and utilize a written agreement specifying the educational relationship between the residency and fellowship programs, the roles of the residency and fellowship directors in determining the educational program of residents and fellows, the roles of the residents and fellows in patient care, and how clinical and educational resources will be shared equitably. (Core)

I.B.1.a)(1) Both program directors should together closely monitor the relationship between residency and fellowship education. (Detail)

***Background and Intent**: A best practice is to keep the agreement on file and review it regularly, particularly when there is a change in either residency or fellowship director.*

I.B.2. There must be a program letter of agreement (PLA) between the program and each participating site that governs the relationship between the program and the participating site providing a required assignment. (Core)

I.B.2.a) The PLA must:

I.B.2.a)(1) be renewed at least every 5 years; (Core)

I.B.2.a)(2) be approved by the designated institutional official (DIO); (Core)

I.B.2.a)(3) specify the duration and content of the educational experience; (Core)

I.B.2.a)(4) state the policies and procedures that will govern fellow education during the assignment; (Core)

I.B.2.a)(5) identify the faculty members who will assume educational and supervisory responsibility for fellows; (Core)

I.B.2.a)(6) specify the responsibilities for teaching, supervision, and formal evaluation of fellows. (Core)

I.B.3. The program must monitor the clinical learning and working environment at all participating sites. (Core)

I.B.3.a) At each participating site there must be one faculty member, designated by the program director who is accountable for fellow education at that site, in collaboration with the program director. (Core)

Background and Intent: *While all fellowship programs must be sponsored by a single NIHS-accredited Sponsoring Institution, many programs will utilize other clinical settings to provide required or elective training experiences. At times it is appropriate to utilize community sites that are not owned by or affiliated with the Sponsoring Institution. Some of these sites may be remote for geographic, transportation, or communication issues. When utilizing such sites, the program must ensure the quality of the educational experience.*

I.B.4. The program director must submit any additions or deletions of participating sites routinely providing an educational experience, required for all fellows, of one-month full time equivalent (FTE) or more through NIHS Accreditation System. (Core)

I.B.4.a) Fellows must have at least six months of clinical education at the primary clinical site. (Core)

I.B.4.b) Clinical assignments to participating sites at which core faculty members consistently provide patient care must not exceed three months in duration. (Core)

I.B.4.c) Clinical assignments to participating sites at which core faculty members do not consistently provide patient care must be approved in advance by the Review Committee and must not exceed three months in duration. (Core)

I.B.5. Fellow assignments away from the Sponsoring Institution should not prevent fellows' regular participation in required didactics. (Core)

I.B.6. A participating site should supplement fellow education by providing focused clinical experience not available, or insufficient for optimal education and training, at the primary clinical site. (Core)

I.B.6.a) Assignment to participating sites must have a clear educational rationale. (Core)

I.B.6.b) Advance approval of the Central Accreditation Committee is required for fellow assignment of six months or more at a participating site. (Core)

I.B.6.c) Advance approval of the Central Accreditation Committee is not required for fellow assignment of less than six months, but the educational rationale and operative resources for such assignments will be evaluated at the time of each site-visit and accreditation review. (Core)

I.B.6.d) All fellows at the primary clinical site and participating site[s] that may interact with or impact the educational experience of other surgery trainees must be identified, and their relationship

to the trauma surgery fellows must be detailed and reported to the DIO and Graduate Medical Education Committee (GMEC) at least annually. (Core)

I.B.7. Elective international rotation(s) must not be longer than 9 months in total over the course of the fellowship. (Core)

I.B.7.a) Surgical procedures completed during an elective international rotation may be counted toward the required minimum numbers of procedures. (Core)

I.B.7.b) The terms of educational experience during an international rotation must be regulated through a PLA. (Core)

I.C. Recruitment

The program, in partnership with its Sponsoring Institution, must engage in practices that focus on mission-driven, ongoing, systematic recruitment and retention of a diverse and inclusive workforce of fellows, residents (if present), faculty members, senior administrative staff members, and other relevant members of its academic community. (Core)

I.D. Resources

I.D.1. The program, in partnership with its Sponsoring Institution, must ensure the availability of adequate resources for fellow education. (Core)

I.D.1.a) The sponsoring institution must provide the broad range of facilities and clinical support services required to provide comprehensive care of adult and pediatric patients. (Core)

I.D.1.b) Resources should include a simulation and skills laboratory. (Detail)

I.D.1.c) Resources must include:

I.D.1.c)(1) a critical care unit located in a designated area within the institution, constructed and designed specifically for the care of critically-ill patients; (Core)

I.D.1.c)(2) a common office space for fellows that includes a sufficient number of computers and adequate workspace at the primary clinical site; (Core)

I.D.1.c)(3) online radiographic and laboratory systems at the primary clinical site and participating sites; (Core)

I.D.1.c)(4) software resources for production of presentations, manuscripts, and portfolios. (Detail)

I.D.1.d) The primary hospital in which the fellows work must be a tertiary referral center and fully functional trauma center or equivalent with 24-hour full services, acute and emergency surgery, and to include but not limited to:

I.D.1.d)(1) a critical care unit located in a designated area within the institution, constructed and designed specifically for the care of adult and pediatric critically-ill patients; (Core)

I.D.1.d)(2) annual trauma admissions greater than 1,200 patients; (Core)

I.D.1.d)(3) programs must have an average daily census of at least 10 patients in each intensive care/critical care unit to which a fellow is assigned, providing for a fellow-to-patient ratio of 1 to 10. (Core)

I.D.1.e) Broad support and cooperation with other clinical services, particularly anesthesiology, emergency medicine, general surgery, intensive care, neurological surgery, orthopedic surgery, radiology, including CT and MRI, and interventional radiology must be available on an emergency basis. (Core)

I.D.1.f) Emergency consultation should be available from physicians specializing in ophthalmology, oral and maxillofacial surgery, and urology. (Core)

I.D.1.g) The sponsoring institution must have a well-equipped emergency resuscitation room, modern operative theater facilities, robust blood bank, and the availability of an operative theater for acute and emergency surgery. (Core)

I.D.1.g)(1) The hospital must have a modern operating room facility, image intensification, compatible fracture table, orthopedic implants in stock, and a special room dedicated to acute and emergency surgery. (Core)

I.D.1.h) Access to an electronic health record must be provided if present. In the absence of an existing electronic health record, institutions must demonstrate institutional commitment to its development and progress toward its implementation. (Core)

I.D.2. The program, in partnership with its Sponsoring Institution, must ensure healthy and safe learning and working environments that promote fellow well-being and provide for (Core):

I.D.2.a) access to food while on duty; (Core)

I.D.2.b) safe, quiet, clean, and private sleep/rest facilities available and accessible for fellows with proximity appropriate for safe patient care; (Core)

Background and Intent: *Care of patients within a hospital or health system occurs continually through the day and night. Such care requires that fellows' function at their peak abilities, which requires the work environment to provide them with the ability to meet their basic needs within proximity of their clinical responsibilities.*

Access to food and rest are examples of these basic needs, which must be met while fellows are working. Fellows should have access to refrigeration where food may be stored. Food should be available when fellows are required to be in the hospital overnight. Rest facilities are necessary, even when overnight call is not required, to accommodate the fatigued fellow.

I.D.2.c) clean and private facilities for lactation that have refrigeration capabilities, with proximity appropriate for safe patient care; (Core)

Background and Intent: *Sites must provide private and clean locations where fellows may lactate and store the milk within a refrigerator. These locations should be in close proximity to clinical responsibilities. It would be helpful to have additional support within these locations that may assist the fellow with the continued care of patients, such as a computer and a phone. While space is important, the time required for lactation is also critical for the well-being of the fellow and the fellow's family.*

I.D.2.d) security and safety measures appropriate to the participating site; (Core)

I.D.2.e) accommodations for fellows with disabilities consistent with the Sponsoring Institution's policy. (Core)

I.D.3. Fellows must have ready access to specialty-specific and other appropriate reference material in print or electronic format. This must include access to electronic medical literature databases with full text capabilities. (Core)

I.D.4. The program's educational and clinical resources must be adequate to support the number of fellows appointed to the program. (Core)

I.E. Other Learners and Other Care Providers

A fellowship program usually occurs in the context of many learners and other care providers and limited clinical resources. It should be structured to optimize education for all learners present. (Core)

I.E.1. Fellows should maintain a close working relationship with general surgery residents and fellows in other disciplines when present. (Core)

I.E.2. Any institution that sponsors more than one critical care program must coordinate interdisciplinary requirements to ensure that fellows meet the specific criteria of their primary specialties. (Core)

I.E.3. The presence of other learners, including residents from other specialties, subspecialty fellows, PhD students, and nurse practitioners, in the program must not interfere with the appointed fellows' education. (Core)

I.E.3.a) The program director must report on the presence of other learners to the DIO and Graduate Medical Education Committee (GMEC) in accordance with Sponsoring Institution guidelines. (Core)

II. Personnel

II.A. Program Director

II.A.1. There must be one faculty member appointed as program director with authority and accountability for the overall program, including compliance with all applicable program requirements. (Core)

II.A.1.a) The Sponsoring Institution's GMEC must approve a change in program director. (Core)

II.A.1.b) Final approval of the program director resides with the Central Accreditation Committee. (Core)

Background and Intent: *While the NIHS recognizes the value of input from numerous individuals in the management of a fellowship, a single individual must be designated as program director and made responsible for the program. This individual will have dedicated time for the leadership of the fellowship, and it is this individual's responsibility to communicate with the fellows, faculty members, DIO, GMEC, and the NIHS. The program director's nomination is reviewed and approved by the GMEC. Final approval of program directors resides with the Central Accreditation Committee.*

II.A.1.c) The program must demonstrate retention of the program director for a length of time adequate to maintain continuity of leadership and program stability. (Core)

Background and Intent*: The success of fellowship programs is generally enhanced by continuity in the program director position. The professional activities required of a program director are unique and complex and take time to master. All programs are encouraged to undertake succession planning to facilitate program stability when there is necessary turnover in the program director position.*

II.A.2. At a minimum, the program director must be provided with the salary support required to devote 30 percent FTE of non-clinical time to the administration of the program. (Core)

Background and Intent: *Thirty percent FTE is defined as one-and-a-half (1.5) days per week. "Administrative time" is defined as non-clinical time spent meeting the responsibilities of the program director.*

II.A.3. Qualifications of the program director:

II.A.3.a) must include trauma surgery expertise and at least three years of documented educational and/or administrative experience, or qualifications acceptable to the Central Accreditation Committee; (Core)

Background and Intent: *Leading a program requires knowledge and skills that are established during fellowship and subsequently further developed. The time from completion of fellowship until assuming the role of program director allows the individual to cultivate leadership abilities while becoming professionally established. The three-year period is intended for the individual's professional maturation.*

The broad allowance for educational and/or administrative experience recognizes that strong leaders arise through diverse pathways. These areas of expertise are important when identifying and appointing a program director. The choice of a program director should be informed by the mission of the program and the needs of the community.

In certain circumstances, the program and Sponsoring Institution may propose, and the Central Accreditation Committee may accept a candidate for program director who fulfills these goals but does not meet the three-year minimum.

II.A.3.b) must be licensed as a consultant and have at least three years post fellowship documented experience in trauma surgery and surgical critical care, or with a specialty qualification that are acceptable to the Central Accreditation Committee; (Core)

II.A.3.c) must include current medical licensure and appropriate medical staff appointment; (Core)

II.A.3.d) must include ongoing clinical activity; (Core)

Background and Intent*: A program director is a role model for faculty members and fellows. The program director must participate in clinical activity consistent with the specialty. This activity will allow the program director to role model the Core Competencies for the faculty members and fellows.*

II.A.3.e) the program director and/or associate program director must include responsibility to direct or co-direct one or more of the critical care units in which the clinical aspects of the educational program take place, and personally supervise and teach surgery and surgical critical care fellows in that unit. (Core)

II.A.4. Program Director Responsibilities

The program director must have responsibility, authority, and accountability for administration and operations; teaching and scholarly activity; fellow recruitment and selection, evaluation, and promotion of fellows, and disciplinary action; supervision of fellows; and fellow education in the context of patient care. (Core)

II.A.4.a) The program director must:

II.A.4.a)(1) be a role model of professionalism; (Core)

Background and Intent: *The program director, as the leader of the program, must serve as a role model to fellows in addition to fulfilling the technical aspects of the role. As fellows are expected to demonstrate compassion, integrity, and respect for others, they must be able to look to the program director as an exemplar. It is of utmost importance, therefore, that the program director model outstanding professionalism, high quality patient care, educational excellence, and a scholarly approach to work. The program director creates an environment where respectful discussion is welcome, with the goal of continued improvement of the educational experience.*

II.A.4.a)(2) design and conduct the program in a fashion consistent with the needs of the community, the mission(s) of the Sponsoring Institution, and the mission(s) of the program; (Core)

Background and Intent: *The mission of institutions participating in graduate medical education is to improve the health of the public. Each community has health needs that vary based upon location and demographics. Programs must understand the social determinants of health of the populations they serve and incorporate them in the design and implementation of the program curriculum, with the goal of addressing these needs and health disparities.*

II.A.4.a)(3) administer and maintain a learning environment conducive to educating the fellows in each of the NIHS Competency domains; (Core)

Background and Intent: *The program director may establish a leadership team to assist in the accomplishment of program goals. Fellowship programs can be highly complex. In a complex organization, the leader typically has the ability to delegate authority to others yet remains accountable. The leadership team may include physician and non-physician personnel with varying levels of education, training, and experience.*

II.A.4.a)(4) develop and oversee a process to evaluate candidates prior to approval as program faculty members for participation in the fellowship program education and at least annually thereafter; (Core)

II.A.4.a)(5) have the authority to approve and/or remove program faculty members for participation in the fellowship program education at all sites; (Core)

II.A.4.a)(6) have the authority to remove fellows from supervising interactions and/or learning environments that do not meet the standards of the program; (Core)

Background and Intent: *The program director has the responsibility to ensure that all who educate fellows effectively role model the Core Competencies. Working with a fellow is a privilege that is earned through effective teaching and professional role modeling. This privilege may be removed by the program director when the standards of the clinical learning environment are not met.*

There may be faculty in a department who are not part of the educational program, and the program director controls who is teaching the fellows.

II.A.4.a)(7) submit accurate and complete information required and requested by the DIO, GMEC, and NIHS; (Core)

II.A.4.a)(8) provide applicants who are offered an interview with information related to the applicant's eligibility for the relevant subspecialty board examination(s); (Core)

II.A.4.a)(9) provide a learning and working environment in which fellows have the opportunity to raise concerns and provide feedback in a confidential manner as appropriate, without fear of intimidation or retaliation; (Core)

II.A.4.a)(10) ensure the program's compliance with the Sponsoring Institution's policies and procedures related to grievances and due process; (Core)

II.A.4.a)(11) ensure the program's compliance with the Sponsoring Institution's policies and procedures for due process when action is taken to suspend or dismiss, not to promote, or not to renew the appointment of a fellow; (Core)

Background and Intent: *A program does not operate independently of its Sponsoring Institution. It is expected that the program director will be aware of the Sponsoring Institution's policies and procedures and will ensure they are followed by the program's leadership, faculty members, support personnel, and fellows.*

II.A.4.a)(12) ensure the program's compliance with the Sponsoring Institution's policies and procedures on employment and non-discrimination; (Core)

II.A.4.a)(13) document verification of program completion for all graduating fellows; within 30 days; (Core)

II.A.4.a)(14) provide verification of an individual fellow's completion upon the fellow's request, within 30 days; (Core)

Background and Intent: *Primary verification of graduate medical education is important to credentialing of physicians for further training and practice. Such verification must be accurate and timely. Sponsoring Institution and program policies for record retention are important to facilitate timely documentation of fellows who have previously completed the program. Fellows who leave the program prior to completion also require timely documentation of their summative evaluation.*

II.A.4.a)(15) obtain review and approval of the Sponsoring Institution's DIO before submitting information, as required in the Institutional Requirements and outlined in the NIHS guidelines to the Common Program Requirements. (Core)

II.A.5. Associate Program Director (APD):

II.A.5.a) For programs with an approved fellow complement of more than 15, one of the trauma surgery certified core faculty members must be appointed as associate program director to assist the program director with the administrative and clinical oversight of the program. (Core)

II.A.5.b) Sponsoring institution to provide APD with 0.3 FTE (or 12 hours per week) of protected time for education and program administration. (Core)

II.A.5.c) APD should assume the role for a duration suitable for ensuring program continuity and stability. (Core)

II.B. Faculty

Faculty members are a foundational element of graduate medical education – faculty members teach fellows how to care for patients. Faculty members provide an important bridge allowing fellows to grow and become practice-ready, ensuring that patients receive the highest quality of care. They are role models for future generations of physicians by demonstrating compassion, commitment to excellence in teaching and patient care, professionalism, and a dedication to lifelong learning. Faculty members experience the pride and joy of fostering the growth and development of future colleagues. The care they provide is enhanced by the opportunity to teach. By employing a scholarly approach to patient care, faculty members improve the health of the individual and the population.

Faculty members ensure that patients receive the level of care expected from a specialist in the field. They recognize and respond to the needs of the patients, fellows, community, and institution. Faculty members provide appropriate levels of supervision to promote patient safety. Faculty members create an effective learning environment by acting in a professional manner and attending to the well-being of the fellows and themselves.

Background and Intent: *"Faculty" refers to the entire teaching force responsible for educating fellows. The term "faculty," including "core faculty," does not imply or require an academic appointment or salary support.*

II.B.1. At each participating site, there must be a sufficient number of faculty members with competence to instruct and supervise all fellows at that location. (Core)

II.B.1.a) The ratio of all faculty to fellows must be a minimum of 1:1. (Core)

II.B.1.a)(1) In addition to the program director, at least one physician certified in critical care must be appointed to the faculty for every critical care fellow enrolled in the program. (Core)

II.B.2. Faculty members must:

II.B.2.a) be role models of professionalism; (Core)

II.B.2.b) demonstrate commitment to the delivery of safe, quality, cost-effective, patient-centered care; (Core)

Background and Intent: *Patients have the right to expect quality, cost-effective care with patient safety at its core. The foundation for meeting this expectation is formed during fellowship. Faculty members model these goals and continually strive for improvement in care and cost, embracing a commitment to the patient and the community they serve.*

II.B.2.c) demonstrate a strong interest in the education of fellows; (Core)

II.B.2.d) devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities; (Core)

II.B.2.e) administer and maintain an educational environment conducive to educating fellows; (Core)

II.B.2.f) regularly participate in organized clinical discussions, rounds, journal clubs, and conferences; (Core)

II.B.2.g) pursue faculty development designed to enhance their skills at least annually. (Core)

Background and Intent: *Faculty development is intended to describe structured programming developed for the purpose of enhancing transference of knowledge, skill, and behavior from the educator to the learner. Faculty development may occur in a variety of configurations (lecture, workshop, etc.) using internal and/or external resources. Programming is typically needs-based (individual or group) and may be specific to the institution or the program. Faculty development programming is to be reported for the fellowship program faculty in the aggregate.*

II.B.3. Faculty Qualifications

II.B.3.a) Faculty members must have appropriate qualifications in their field and hold appropriate institutional appointments. (Core)

II.B.3.b) Physician faculty members must:

II.B.3.b)(1) have a current license in trauma surgery and surgical critical care or other specialty as required, or possess qualifications judged acceptable to the Central Accreditation Committee. (Core)

II.B.3.c) Any non-physician faculty members who participate in fellowship program education must be approved by the program director. (Core)

Background and Intent*: The provision of optimal and safe patient care requires a team approach. The education of fellows by non-physician educators enables the fellows to better manage patient care and provides valuable advancement of the fellows' knowledge. Furthermore, other individuals contribute to the education of the fellow in the basic science of the specialty or in research methodology. If the program director determines that the contribution of a non-physician individual is significant to the education of the fellows, the program director may designate the individual as a program faculty member or a program core faculty member.*

II.B.4. Core Faculty

Core faculty members must have a significant role in the education and supervision of fellows and must devote a significant portion of their entire effort to fellow education and/or administration, and must, as a component of their activities, teach, evaluate, and provide formative feedback to fellows. (Core)

Background and Intent*: Core faculty members are critical to the success of fellow education. They support the program leadership in developing, implementing, and assessing curriculum and in assessing fellows' progress toward achievement of competence in the specialty. Core faculty members should be selected for their broad*

knowledge of and involvement in the program, permitting them to effectively evaluate the program, including completion of the annual NIHS Faculty annual survey.

II.B.4.a) Core faculty members must be designated by the program director. (Core)

II.B.4.b) Core faculty members must complete the annual NIHS Faculty Survey. (Core)

II.B.4.c) There must be at least one core faculty member certified in trauma surgery and surgical critical care for every 1.5 fellows (ratio 1:1.5). (Core)

II.C. Program Coordinator

II.C.1. There must be a program coordinator. (Core)

II.C.2. At a minimum, the program coordinator must be provided with adequate time for the administration of the program. (Core)

Background and Intent: *Each program requires a lead administrative person, frequently referred to as a program coordinator, administrator, or as titled by the institution. This person will frequently manage the day-to-day operations of the program and serve as an important liaison with learners, faculty and other staff members, and the NIHS. Individuals serving in this role are recognized as program coordinators.*

The program coordinator is a member of the leadership team and is critical to the success of the program. As such, the program coordinator must possess skills in leadership and personnel management. Program coordinators are expected to develop unique knowledge of the NIHS and Program Requirements, policies, and procedures. Program coordinators assist the program director in accreditation efforts, educational programming, and support of fellows.

Programs, in partnership with their Sponsoring Institutions, should encourage the professional development of their program coordinators and avail them of opportunities for both professional and personal growth. Programs with fewer fellows may not require a full-time coordinator; one coordinator may support more than one program.

II.D. Other Program Personnel

The program, in partnership with its Sponsoring Institution, must jointly ensure the availability of necessary personnel for the effective administration of the program. (Core)

II.D.1. Personnel should be available for administration of program components, including support for fellow scholarly activity and for simulation. (Core)

Background and Intent: *Multiple personnel may be required to effectively administer a program. These may include staff members with clerical skills, project managers, education experts, and staff members to maintain electronic communication for the program. These personnel may support more than one program in more than one discipline.*

III. Fellows Appointments

III.A. Eligibility Requirements

III.A.1. An applicant must meet the following qualifications to be eligible for appointment to a NIHS-accredited program: (Core)

III.A.1.a) All required clinical education for entry into NIHS-accredited fellowship programs must be completed in a NIHS-accredited residency program, a program with ACGME International (ACGME-I) Advanced Specialty Accreditation, or another structured residency program considered acceptable by Central Accreditation Committee. (Core).

III.A.1.a)(1) Fellowship programs must receive verification of each entering fellow's level of competence in the required field, upon matriculation, NIHS Milestones evaluations from the core residency program. (Core)

III.A.1.a)(2) Programs must evaluate fellows within six weeks following entry into the program for expected entry-level skills so that additional training can be provided in a timely manner to address identified deficiencies. (Core)

III.A.1.b) Prior to appointment in the fellowship, fellows should have completed a general surgery residency program that satisfies the requirements in III.A.1.a). (Core)

III.A.1.b)(1) Refer to NIHS criteria included in the Training Bylaw. (Core)

III.A.1.c) Fellow Eligibility Exception

The Central Accreditation Committee will allow the following exception to the fellowship eligibility requirements:

III.A.1.c)(1) An NIHS-accredited fellowship program may accept an exceptionally qualified international graduate applicant who does not satisfy the eligibility requirements listed in III.A.1.a), but who does meet all of the following additional qualifications and conditions: (Core)

III.A.1.c)(1)(a) Is eligible for a license of specialist in general surgery by UAE Health Authority PQR. (Core)

III.A.1.c)(1)(b) Is evaluated by the program director and fellowship selection committee based on prior training and review of the summative evaluations of training in the core specialty; (Core)

III.A.1.c)(1)(c) The applicant's exceptional qualifications are reviewed and approved of by the GMEC; (Core)

III.A.1.c)(2) Applicants accepted through this exception must have an evaluation of their performance by the Clinical Competency Committee within 12 weeks of matriculation. (Core)

III.A.2. All prerequisite post-graduate clinical education required for initial entry or transfer into NIHS-accredited fellowship programs must be completed in a NIHS-accredited fellowship programs approved by the NIHS. (Core)

III.A.2.a) Prior to appointment in the program, fellows must fulfill the NIHS eligibility criteria. (Core)

III.B. Number of Fellows

III.B.1. The program director must not appoint more fellows than approved by the Central Accreditation Committee. (Core)

III.B.2. All changes in fellow's complement must be approved by the NIHS Central Accreditation Committee. (Core)

III.B.3. The number of fellows appointed to the program must not exceed the program's educational and clinical resources. (Core)

III.B.4. The number of available fellow positions in the program must be at least one per year. (Detail)

III.C. Fellows Transfers

The program must obtain verification of previous educational experiences and a summative competency-based performance evaluation prior to acceptance of a transferring fellow, and Milestones evaluations upon matriculation. (Core)

IV. Educational Program

The NIHS accreditation system is designed to encourage excellence and innovation in medical education regardless of the organizational affiliation, size, or location of the program.

The educational program must support the development of knowledgeable, skillful physicians who provide compassionate care.

IV.A. Curriculum Components

The Educational Curriculum must contain the following educational components: (Core)

IV.A.1. A set of program aims consistent with the Sponsoring Institution's mission, the needs of the community it serves, and the desired distinctive capabilities of its graduates. (Core)

IV.A.2. Competency-based goals and objectives for each educational experience designed to promote progress on a trajectory to autonomous practice which is documented by Milestones evaluation. (Core)

IV.A.2.a) These goals and objectives must be distributed and available to fellows and faculty members. (Core)

IV.A.3. Delineation of fellow responsibilities for patient care, progressive responsibility for patient management, and graded supervision in their subspecialty. (Core)

IV.A.4. Structured educational activities beyond direct patient care. (Core)

Background and Intent: *Patient care-related educational activities, such as morbidity and mortality conferences, tumor boards, surgical planning conferences, case discussions, etc., allow fellows to gain medical knowledge directly applicable to the patients they serve. Programs should define those educational activities in which fellows are expected to participate and for which time is protected.*

IV.A.5. Advancement of fellows' knowledge of ethical principles foundational to medical professionalism. (Core)

IV.B. Defined Core Competencies

IV.B.1. The program must integrate the following Core Competencies into the curriculum: (Core)

IV.B.1.a) Professionalism

Professionalism incorporates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to patients of diverse backgrounds. As such, fellows are expected to maintain high standards of ethical behavior, demonstrate a commitment to continuity of patient care, and show sensitivity to age, gender and culture of patients and other health care professionals. (Core)

Fellows are expected to: (Core)

IV.B.1.a)(1) Demonstrate timely completion of medical records. (Core)

IV.B.1.a)(2) Demonstrate proper performance of expected professional responsibilities. (Core)

IV.B.1.a)(3) Demonstrate the use of ethical principles in patient care. (Core)

IV.B.1.a)(4) Demonstrate sensitivity to race, cultural, age, gender and disability issues. (Core)

IV.B.1.a)(5) Treat other members of the care team with respect. (Core)

IV.B.1.b) Patient Care and Procedural Skills

IV.B.1.b)(1) Fellows must be able to provide patient care that is appropriate, and effective for the treatment or health problems and the promotion of health. (Core)

IV.B.1.b)(2) Fellows must demonstrate competence in the following critical care skills: (Core)

IV.B.1.b)(2)(a) circulatory: performance of invasive and non-invasive monitoring techniques, and the use of vasoactive agents and management of hypotension and shock; application of trans-esophageal and transthoracic cardiac ultrasound; application of transvenous pacemakers; dysrhythmia diagnosis and treatment; and management of cardiac assist devices; (Core)

IV.B.1.b)(2)(b) endocrine: performance of the diagnosis and management of acute endocrine disorders, including those of the pancreas, thyroid, adrenals, and pituitary; (Core)

IV.B.1.b)(2)(c) gastrointestinal: performance of utilization of gastrointestinal intubation and endoscopic techniques in the management of the critically-ill patient; and management of stomas, fistulas, and percutaneous catheter devices; (Core)

IV.B.1.b)(2)(d) hematologic: performance of assessment of coagulation status, and appropriate use of blood component therapy; (Core)

IV.B.1.b)(2)(e) infectious disease: performance of classification of infections and application of isolation techniques, pharmacokinetics, drug interactions, and management of antibiotic therapy during organ failure; nosocomial infections; and management of sepsis and septic shock; (Core)

IV.B.1.b)(2)(f) monitoring/bioengineering: performance of the use and calibration of transducers and other medical devices; (Core)

IV.B.1.b)(2)(g) neurological: performance of management of intracranial pressure and acute neurologic emergencies, including application of the use of intracranial pressure monitoring techniques and electroencephalography to evaluate cerebral function; (Core)

IV.B.1.b)(2)(h) nutritional: performance of the use of parenteral and enteral nutrition, and monitoring and assessing metabolism and nutrition; (Core)

IV.B.1.b)(2)(i) renal: performance of the evaluation of renal function; use of renal replacement therapies; management of hemodialysis, and management of electrolyte disorders and acid-base disturbances; and application of knowledge of the indications for and complications of hemodialysis; (Core)

IV.B.1.b)(2)(j) respiratory: performance of airway management, including techniques of intubation, endoscopy, and tracheostomy, as well as ventilator management. (Core)

IV.B.1.b)(2)(k) miscellaneous: performance of the use of special beds for specific injuries, and employment of skeletal traction and fixation devices. (Core)

IV.B.1.b)(3) Fellows must demonstrate competence in the evaluation and management of patients with end-of-life issues, and in palliative care. (Core)

IV.B.1.b)(4) Fellows must be able to perform all medical, diagnostic, and surgical procedures considered essential for the area of practice (see Appendix 1). (Core)

IV.B.1.b)(5) Fellows should be able to develop, describe, and execute patient care plans as well as demonstrate surgical skills and manual dexterity appropriate for their training level. (Core)

IV.B.1.b)(5)(a) Trauma Surgery

- Develop patient centered expertise in the management of the trauma patient from the initial resuscitation through patient discharge. This includes, but is not limited to, appropriate, timely decision making, use of appropriate investigations, operative and non-operative management of neck, torso and extremity injuries, nutrition, pre- and postoperative care, and in-hospital rehabilitation. (Core)

- Direct the entire team through the trauma resuscitation. (Core)

- Prioritize the diagnostic evaluation of the patient with multiple injuries. (Core)

- Perform advanced surgical procedures to manage injuries in the neck, torso and extremities including the use of REBOA. (Core)

- Manage patients with multiple injuries appropriately using operative and non-operative techniques. (Core)

- Discuss the common injury patterns with various mechanisms of injury (front, side, and rear impact MVC with and without restraints, MCC, falls, and penetrating injuries). (Core)

- Clinically recognize, perform appropriate diagnostic maneuvers, and formulate a management plan for all systems in the injured patient. (Core)

- Initiate transfusion of blood and blood products, massive transfusion protocols, use of thromboelastography and understand potential complications. (Core)

- Demonstrate successful treatment of all types of shock. (Core)

IV.B.1.b)(5)(b) Emergency General Surgery

• Develop expertise in the surgical and non-surgical management of acute, time sensitive illnesses that fall within the realm of general surgery as defined by the American Board of Surgery. (Core)

• Manage emergent presentation of inguinal and abdominal wall hernias. (Core)

• Manage enteric fistulas including techniques for complex fistula management. (Core)

• Demonstrate an understanding of available options for nutritional support in complex, critically ill surgical patients. (Core)

• Demonstrate an understanding of the management of acute, severe pancreatitis as well as complex biliary tract disease including the role of medical management, percutaneous procedures and operative interventions in complex, critically ill surgical patients. (Core)

• Manage emergent processes leading to infectious complications, acute necrosis, perforation, or bleeding of the gastrointestinal tract including esophagus, stomach, duodenum, small and large intestine, appendix, and rectum. (Core)

• Manage acute bowel obstruction including the indications for surgery, non-operative management, the role of contrast studies, and the use of guidelines to optimize patient care. (Core)

• Understand and manage the presentations of acute ano-rectal disease. (Core)

• Recognize and treat necrotizing soft tissue infections including radical resection, serial excision, and reconstruction. (Core)

IV.B.1.b)(6) Fellows must demonstrate competence in:

IV.B.1.b)(6)(a) medical, surgical and psycho-sociological skills for management of the severely injured patient; (Core)

IV.B.1.b)(6)(b) resuscitation of patients with polytrauma; (Core)

IV.B.1.b)(6)(c) diagnosis and management of complications of musculoskeletal trauma; (Core)

IV.B.1.b)(6)(d) responsible and appropriate administration of narcotic medication; (Core)

IV.B.1.b)(6)(e) management of cardiovascular diseases in the critical care unit; (Core)

IV.B.1.b)(6)(f) end-of-life issues and palliative care; (Core)

IV.B.1.b)(6)(g) management of metabolic, nutritional and endocrine effects of critical illness and injuries, hematologic and coagulation disorders associated with critical illness and severe injuries; (Core)

IV.B.1.b)(6)(h) management of multi-organ system failure; (Core)

IV.B.1.b)(6)(i) care of perioperative critically ill patients; (Core)

IV.B.1.b)(6)(i)(i) including hemodynamic and ventilatory support. (Detail)

IV.B.1.b)(6)(j) management of renal disorders in the critical care unit; (Core)

IV.B.1.b)(6)(j)(i) including electrolyte and acid-base disturbance and acute renal failure; (Detail)

IV.B.1.b)(6)(j)(ii) including initiation and management of patient on continuous renal replacement therapy. (Detail)

IV.B.1.b)(6)(k) management of respiratory failure; (Core)

IV.B.1.b)(6)(k)(i) including acute respiratory distress syndrome, acute and chronic respiratory failure in obstructive lung diseases. (Detail)

IV.B.1.b)(6)(l) management of sepsis and sepsis syndrome; (Core)

IV.B.1.b)(6)(m) management of severe organ dysfunction resulting in critical illness; (Core)

IV.B.1.b)(6)(m)(i) including disorders of the gastrointestinal, neurologic, endocrine, hematologic, musculoskeletal, and immune systems, as well as infections and malignancies; (Detail)

IV.B.1.b)(6)(m)(ii) shock syndromes. (Core)

IV.B.1.b)(6)(n) management of severe traumatic brain injuries; (Core)

IV.B.1.b)(6)(o) comprehensive burn care and the resuscitation of a severely burned patient. (Core)

IV.B.1.c) Medical Knowledge

Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social behavioral sciences, as well as the application of this knowledge to patient care. (Core)

IV.B.1.c)(1) Fellows must demonstrate advanced knowledge of the following aspects of critical care, particularly as they relate to the management of patients with hemodynamic instability, multiple system organ failure, and complex coexisting medical problems: (Core)

IV.B.1.c)(1)(a) biostatistics and experimental design; (Core)

IV.B.1.c)(1)(b) cardiorespiratory resuscitation; (Core)

IV.B.1.c)(1)(c) critical obstetric and gynecologic disorders; (Core)

IV.B.1.c)(1)(d) critical pediatric surgical conditions; (Core)

IV.B.1.c)(1)(e) ethical and legal aspects of surgical critical care; (Core)

IV.B.1.c)(1)(f) hematologic and coagulation disorders; (Core)

IV.B.1.c)(1)(g) inhalation and immersion injuries; (Core)

IV.B.1.c)(1)(h) metabolic, nutritional, and endocrine effects of critical illness; (Core)

IV.B.1.c)(1)(i) monitoring and medical instrumentation; (Core)

IV.B.1.c)(1)(j) pharmacokinetics and dynamics of drug metabolism and excretion in critical illness; (Core)

IV.B.1.c)(1)(k) physiology, pathophysiology, diagnosis, and therapy of disorders of the cardiovascular, respiratory, gastrointestinal, genitourinary, neurological, endocrine, musculoskeletal, and immune systems, as well as of infectious diseases; (Core)

IV.B.1.c)(1)(l) principles and techniques of administration and management; (Core)

IV.B.1.c)(1)(m) trauma, thermal, electrical, and radiation injuries. (Core)

IV.B.1.c)(2) Fellows must demonstrate competence in their knowledge of:

IV.B.1.c)(2)(a) the indications, risks, and limitations of the commonly-performed procedures in the surgical ICU, trauma surgery, and emergency general surgery; (Core)

IV.B.1.c)(2)(b) protocols and strategies in the treatment following traumatic injury or surgical insult of each organ system (Core)

IV.B.1.c)(2)(c) integration of the trauma surgeon in a trauma team, and the timing of various procedures by specialty teams in the overall care of the severely injured patient; (Core)

IV.B.1.c)(2)(d) psychiatric and psychological implications of severe trauma for the patient and their family members; (Core)

IV.B.1.c)(2)(e) development and sustainment of a trauma program within a single institution; (Core)

IV.B.1.c)(2)(f) development and sustainment of a trauma system within region or country with emphasis on the United Arab Emirates; (Core)

IV.B.1.c)(2)(g) the application of research methods, including the ability to critically analyze research reports and to design and implement clinical or basic research in the field of trauma surgery or surgical critical care. (Core)

IV.B.1.c)(3) Fellows must understand physiology, pathophysiology, diagnostic techniques, principles of management, including outcomes and potential complications of various patient illnesses and management strategies. The fellow should be able to critically evaluate and demonstrate knowledge of pertinent scientific information. (Core)

IV.B.1.c)(3)(a) Trauma Surgery

• Demonstrate knowledge of resuscitation and management strategies in the ED including indications for FAST, REBOA, resuscitative thoracotomy, blood transfusion (damage control resuscitation, massive transfusion and thrombo-elastography); (Core)

• Demonstrate detail knowledge of management of complex traumatic injuries. This includes diagnosis, timing of intervention, and therapeutic options. Examples include traumatic injury of the thoracic aorta, renovascular injuries, injuries of the portal triad, retro hepatic caval injuries, complex cervical spine fractures, facial fractures, and complex pelvis fractures. (Core)

• Demonstrate knowledge of advanced surgical procedures for management of injuries in the neck, torso and extremities. Examples include management of tracheal injuries, stabilization and management of complex injuries to the face, management of flail chest, control of major thoracic vascular injuries, concepts and techniques related to control of intraabdominal hemorrhage, management of the mangled extremity. (Core)

• Understand the areas of trauma surgery in which patient management is controversial or evolving. Examples include management of penetrating neck injuries, management of colon injuries, and management of minimal vascular injuries. (Core)

• Maintain an updated ATLS certification and seek ATLS instructor status. (Core)

• Maintain an updated ACLS certification. (Core)

• Complete ASSET and ATOM training if available. (Core)

IV.B.1.c)(3)(b) Emergency General Surgery

• Demonstrate knowledge of management of acute presentation of hernias and the complex abdominal wall, including operative and non-operative management, use of tissue repairs, enteric fistula management, and the advantages and limitations of different abdominal wall reconstruction techniques. (Core)

• Demonstrate knowledge of the management complex biliary tract disease including medical management, operative management, and utilization of endoscopic and interventional techniques in critically ill patients. (Core)

• Understand and discuss the management of acute necrosis, perforation, or bleeding of the gastrointestinal tract including esophagus, stomach, duodenum, small and large intestine, appendix, and rectum. Understand the role of endoscopy, operative management, and interventional procedures in the management of these conditions. (Core)

• Demonstrate knowledge of the management of acute bowel obstruction including the role of contrast studies and indications for surgery. (Core)

• Demonstrate knowledge of the management of acute presentations of ano-rectal disease, including management of abscesses, hemorrhoids, bleeding and perforation. (Core)

• Demonstrate knowledge of the management of the spectrum of pancreatitis to include severe necrotizing pancreatitis. (Core)

• Demonstrate knowledge of the management of necrotizing soft tissue infections, including surgical resection, serial debridement, antibiotic treatment, and reconstruction. (Core)

• Demonstrate knowledge of the indications and contraindications for diagnostic and therapeutic endoscopy in the acute setting. (Core)

IV.B.1.d) Practice-based Learning and Improvement

Fellows must demonstrate the ability to investigate and evaluate their care of patients, applying scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning. (Core)

Fellows are expected to: (Core)

IV.B.1.d)(1) Apply principles of evidence-based medicine to daily patient care. (Core)

IV.B.1.d)(2) Identify best practice patterns to facilitate care of trauma and emergency general surgery patients. Critique personal practice outcomes. (Core)

IV.B.1.d)(3) Interpret, critique, evaluate and apply evidence-based guidelines in the care of acutely ill or injured patients. (Core)

IV.B.1.d)(4) Discuss the principles and techniques of administration and management. (Core)

IV.B.1.d)(5) Develop and maintain a willingness to learn from failures and then improve processes of care. (Core)

IV.B.1.d)(6) Participate in multidisciplinary rounds, morbidity and mortality conference, trauma quality meetings, journal club and surgery grand rounds. (Core)

IV.B.1.e) Interpersonal and Communication Skills

Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. (Core)

Fellows must:

IV.B.1.e)(1) Demonstrate effective communication with attending physicians, consultants and other health care providers. (Core)

IV.B.1.e)(2) Effectively explain diagnosis, prognosis and treatment plan (including risks, benefits, and side effects) with patients and families using simple, easy to understand language. (Core)

IV.B.1.e)(3) Facilitate transfers of care between services. (Core)

IV.B.1.e)(4) Demonstrate effective and collegial daily communication with referring services. (Core)

IV.B.1.e)(5) Develop teaching skills by instructing other learners in medical and procedural aspects of emergency general surgery and trauma. (Core)

IV.B.1.e)(6) Demonstrate maintenance of patient confidentiality in communication with family, friends, and other health care workers. (Core)

IV.B.1.f) Systems-based Practice

Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, including the social determinants of health, as well as the ability to call effectively on other resources to provide optimal health care. (Core)

Fellows are expected to: (Core)

IV.B.1.f)(1) Demonstrate an understanding of the role of different specialists and other health care professionals in overall patient management. (Core)

IV.B.1.f)(2) Effectively coordinate social work, home health care and rehabilitative services to facilitate care for patients. (Core)

IV.B.1.f)(3) Identify barriers to urgent care in an inpatient setting. (Core)

IV.B.1.f)(4) Identify practices that improve cost-effectiveness in the care of emergency general surgery and injured patients. (Core)

IV.B.1.f)(5) Demonstrate an understanding of their regional/state trauma system and the regional care path of emergency general surgery patients. (Core)

IV.C. Curriculum Organization and Fellow Experiences

IV.C.1. The curriculum must be structured to optimize fellow educational experiences, the length of the experiences, and the supervisory continuity. These educational experiences include an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events. (Core)

IV.C.1.a) Fellows must continue to provide care for their own post-operative patients until they are discharged or until the patients' post-operative conditions are stable and the episode of care is concluded. (Core)

IV.C.2. The program must provide instruction and experience in pain management, including recognition of the signs of substance use disorder. (Core)

IV.C.2.a) This must include instruction and experience in multimodal pain treatment, including non-narcotic pain medications and alternative pain reducing modalities. (Core)

IV.C.3. Upon graduation, the fellow must have sufficient exposure to both surgical critical care and trauma surgery, and acute care surgery. The fellow must have completed the following minimum month requirements for graduation. (Core)

IV.C.4. A total of no less than 12 months must be spent on Intensive Care Unit rotation. (Core)

During this time the fellow should be actively leading daily multidisciplinary rounds, performing or directly supervising indicated bedside procedures, and managing critically ill patients. During these months the fellow must have appropriate supervision by licensed intensivist privileged for the care provided in the unit. Fellows are allowed to perform and document operative cases during these months but are to be primarily dedicated to management of ICU patients. (Core)

IV.C.4.a) All 12 months must be devoted to advanced educational and clinical activities related to the care of critically-ill patients and to the administration of critical care units. (Core)

IV.C.4.b) Clinical rotations in surgical intensive care units must be at least four weeks in length. (Core)

IV.C.4.c) Elective rotations to take advantage of unique educational opportunities must be a minimum of two weeks in length. (Core)

IV.C.4.d) At least eight months must be in a surgical intensive care unit. (Core)

> IV.C.4.d)(1) At least five of the eight months should be in a unit in which a surgeon is director or co-director. (Detail)
>
> IV.C.4.d)(2) The surgical intensive care unit must be largely dedicated to the care of one or more of the following surgical patients: adult surgical, burn, cardiothoracic, neurosurgical, pediatric surgical, transplant, and trauma. (Detail)

IV.C.4.e) Experiences in non-surgical intensive care units, such as medical, cardiac, or pediatric units, must not exceed two months. (Core)

IV.C.4.f) Elective rotations in areas relevant to critical care, such as trauma or acute care surgery, must not exceed two months. (Core)

> IV.C.4.f)(1) Elective clinical rotations done outside of the critical care unit should involve the care of patients with acute surgical diseases such as those related to injury or emergent surgical conditions. (Detail)

IV.C.4.g) The core curriculum must include a regularly scheduled didactic program based on the core knowledge content and areas defined as a fellow's outcomes in the specialty. (Core)

IV.C.4.h) Participation in direct operative care of critically-ill patients in the operating room during critical care rotations must not be so great as to interfere with the primary educational purpose of the critical care rotation. (Core)

IV.C.4.i) Fellows must keep two written records of their experience: a summary record documenting the numbers and types of critical care patients; and an operative log of numbers and types of operative experiences, including bedside procedures. (Core)

IV.C.4.j) A chief resident in surgery and a fellow in surgical critical care must not have primary responsibility for the same patient. (Core)

IV.C.4.k) Fellows must be able to administer a surgical critical care unit and appoint, educate, and supervise specialized personnel; establish policy and procedures for the unit; and coordinate the

activities of the unit with other administrative units within the hospital. (Outcome)

IV.C.5. A total of no less than 18 months must be dedicated to operative experience. (Core)

IV.C.5.a) Programs must develop robust operative exposure rotations to satisfy case minimums and ensure the fellowship graduate has the skills and experience to deliver expertise surgical care in the fields of trauma surgery and emergency general surgery. (Core)

IV.C.5.b) Each program must offer a variety of clinical and operative experiences designed to enhance the fellows' breadth of experience. (Core)

IV.C.5.b)(1) This should include: (Core)

- emergency general surgery, (Core)
- international surgical rotations, (Desired)
- focused ultrasound curricula, (Core)
- trauma system development, (Core)
- advanced endoscopy, (Desired)
- enhanced exposure to subspecialty rotations. (Core)

IV.C.5.c) Operative experience in thoracic, vascular, and complex hepatobiliary/pancreatic procedures is expected as a means of developing competency in the management of acute surgical emergencies in these anatomic regions. (Core)

IV.C.5.d) Emergency general surgery call and trauma call are mandatory components of the training curriculum. (Core)

IV.C.5.e) Fellows will take a minimum of 52 night calls during the fellowship. (Core)

IV.C.5.f) Exposure to the diagnosis, management and operative treatment of neurosurgical and orthopedic injuries is encouraged. (Core)

IV.C.6. Clinical experiences must emphasize the diagnosis of clinical trauma problems, the mechanism of injury, the treatment modalities available, and the results and complications of such treatment. (Core)

IV.C.6.a) Fellows must participate and manage patients with a wide variety of problems in trauma. (Core)

IV.C.6.b) The breadth of clinical experience must include the evaluation and care of individuals of a wide range of ages and genders. (Core)

IV.C.6.c) Clinical experiences must include:

IV.C.6.c)(1) a major role in the continuity of care of patients to include progressive responsibility for patient assessment, decisions regarding treatment, pre-operative evaluation and planning, operative experience, non-operative management, post-operative intensive care, other postoperative management, rehabilitation, and other outpatient care of patients. (Core)

IV.C.6.c)(2) clearly defined teaching responsibilities for fellows, allied health personnel, and residents and medical students if present. (Core)

IV.C.6.c)(2)(a) These teaching experiences must correlate basic biomedical knowledge with the clinical aspects of trauma surgery, surgical critical care, and/or emergency general surgery. (Core)

IV.C.7. The didactic curriculum must include anatomy, physiology, biomechanics, pathology, microbiology, pharmacology, epidemiology, and immunology as they relate to trauma surgery and surgical critical care. (Core)

IV.C.7.a) The program must regularly hold subspecialty conferences with active faculty members and fellow participation, including at least: (Core)

IV.C.7.a)(1) one weekly teaching conference; (Detail)

IV.C.7.a)(2) one monthly morbidity and mortality conference; (Detail)

IV.C.7.a)(3) one monthly multidisciplinary conference with other services engaged in the routine care of traumatically injured patients. (Detail)

IV.C.8. A total of 6 months must be dedicated to elective rotations. (Core)

IV.C.8.a) One month of elective rotation must be dedicated to scientific research and scholarly activities. (Core)

IV.C.8.b) Other elective rotations may include rotations inside a burn center, orthopedics, interventional radiology, or other surgical subspecialty. (Detail)

IV.C.8.c) Elective rotations should be selected to focus on meeting the required case volumes or, if case volume is met, focus on fellow interest and further career progression. (Detail)

IV.D. Scholarship

Medicine is both an art and a science. The physician is a humanistic scientist who cares for patients. This requires the ability to think critically, evaluate the literature, appropriately assimilate new knowledge, and practice lifelong learning. The program and faculty must create an environment that fosters the acquisition of such skills through fellow participation in scholarly activities. Scholarly activities must include discovery, integration, application, and teaching.

IV.D.1. Program Responsibilities

IV.D.1.a) The program must demonstrate evidence of scholarly activities consistent with its mission(s) and aims. (Core)

IV.D.1.b) The program, in partnership with its Sponsoring Institution, must allocate adequate resources to facilitate fellow and faculty involvement in scholarly activities. (Core)

IV.D.2. Faculty Scholarly Activity

- IV.D.2.a) Among their scholarly activity, programs must demonstrate accomplishments in at least three of the following domains: (Core)
- Research in basic science, education, translational science, patient care, or population health
- Peer-reviewed journal publications, case-presentation publications
- Quality improvement and/or patient safety initiatives
- Systematic reviews, meta-analyses, review articles, chapters in medical textbooks, or case reports
- Creation of curricula, evaluation tools, didactic educational activities, or electronic educational materials
- Contribution to professional committees, educational organizations, or editorial boards
- Innovations in education

IV.D.2.b) The program must demonstrate scholarly activity by the following methods:

IV.D.2.b)(1) faculty participation in grand rounds, posters, workshops, quality improvement presentations, podium presentations, reviewed print/electronic resources, articles or publications, book chapters, textbooks, webinars,

service on professional committees, or serving as a journal reviewer, journal editorial board member, or editor; (Core)

IV.D.2.b)(2) peer-reviewed publication incl. case-discussion and letters to the editor. (Core)

IV.D.3. Fellow Scholarly Activity

IV.D.3.a) While in the program, fellows must engage in at least one of the following scholarly activities: participation in grand rounds, posters, workshops, quality improvement presentations, podium presentations, grant leadership, non-peer-reviewed print/electronic resources, articles or publications, book chapters, textbooks, webinars, service on professional committees, or serving as a journal reviewer, journal editorial board member, or editor. (Core)

IV.D.3.b) Fellows must participate in scholarly project. (Core)

IV.D.3.b)(1) Fellows must complete a scholarly project relevant to the specialty which was conducted under direct supervision of a faculty member. (Core)

IV.D.3.b)(2) The project shall be prepared in a form which can be used for publication or presentation and submitted for publication in a specialty specific journal or presented in a national or international specialty conference. (Core)

IV.D.3.b)(3) The proof of project submission for publication, or presentation in a medical conference, will be part of the fellow's portfolio and will be documented in the final summative evaluation prior to Board Certification, in accordance with NIHS guidelines. (Core)

IV.E. Independent Practice

Fellowship programs may assign fellows to engage in independent practice of their core specialty during their fellowship program.

IV.E.1. If programs (program director) permit their fellows to utilize the independent practice option, it must not exceed 20 percent of their time per week or 10 weeks of an academic year. (Core)

IV.E.2. Each fellow must be credentialed and privileged for general surgery at the sponsoring institution. (Core)

V. Evaluation

V.A. Fellow Evaluation

V.A.1. Feedback and Evaluation

Formative and summative evaluation have distinct definitions.

Formative evaluation is monitoring fellow learning and providing ongoing feedback that can be used by fellows to improve their learning.

More specifically, formative evaluations help:

- fellows identify their strengths and weaknesses and target areas that need work
- program directors and faculty members recognize where fellows are struggling and address problems immediately.

Summative evaluation is evaluating a fellow's learning by comparing the fellows against the goals and objectives of the rotation and program, respectively and is utilized to make decisions about promotion to the next level of training, or program completion.

End-of-rotation and end-of-year evaluations have both summative and formative components. Information from a summative evaluation can be used formatively when fellows or faculty members use it to guide their efforts and activities in subsequent rotations and to successfully complete the fellowship program.

V.A.1.a) Faculty members must directly observe, evaluate, and frequently provide feedback on fellow performance during each rotation or similar educational assignment. (Core)

This feedback will allow for the development of the learner as they strive to achieve the Milestones. More frequent feedback is strongly encouraged for fellows who have deficiencies that may result in a poor final rotation evaluation.

V.A.1.a)(1) The faculty must discuss this evaluation with each fellow at the completion of each assignment. (Core)

V.A.1.a)(2) Assessment of procedural competence should include a formal evaluation process and not be based solely on a minimum number of procedures performed. (Detail)

V.A.1.a)(3) This must include review of fellow cases logged in the Case Log System. (Core)

V.A.1.b) Evaluation must be documented at the completion of the assignment. (Core)

V.A.1.b)(1) For block rotations of greater than three months in duration, evaluation must be documented at least every three months. (Core)

V.A.1.b)(2) For block rotations of any duration, a written evaluation must be provided at the end of the rotation. (Core)

V.A.1.b)(3) Longitudinal experiences, such as continuity clinic in the context of other clinical responsibilities, must be evaluated at least every three months and at completion. (Core)

V.A.1.b)(4) Fellows' performance evaluations must be documented at least every two months. (Core)

V.A.1.b)(5) Rotations exceeding two months in duration must have a mid-rotation evaluation. (Core)

V.A.1.c) The program must provide an objective performance evaluation based on the Competencies and the specialty-specific Milestones, and must: (Core)

V.A.1.c)(1) use multiple evaluators (e.g., faculty members, peers, patients, self, and other professional staff members) (Core)

V.A.1.c)(2) provide that information to the Clinical Competency Committee for its synthesis of progressive fellow performance and improvement toward unsupervised practice. (Core)

V.A.1.d) The program director or their designee, with input from the Clinical Competency Committee, must:

V.A.1.d)(1) Meet with and review with each fellow their documented semi-annual evaluation of performance, including progress and the specialty-specific Milestones (Core)

V.A.1.d)(1)(a) Semi-annual assessment must include a review of case volume, breadth, and complexity, and must ensure that fellows are maintaining the required written records. (Core)

V.A.1.d)(2) assist fellow in developing individualized learning plans to capitalize on their strengths and identify areas for growth; (Core)

V.A.1.d)(3) develop plans for fellows failing to progress, following both the NIHS Emirati Board and institutional policies and procedures. (Core)

V.A.1.e) At least annually, there must be a summative evaluation of each fellow that includes their readiness to progress to the next year of the program, if applicable. (Core)

V.A.1.f) The evaluations of a fellow's performance must be accessible for review by the fellow. (Core)

V.A.2. Final Evaluation

V.A.2.a) The program director must provide a final evaluation for each fellow upon completion of the program. (Core)

V.A.2.a)(1) The orthopedic trauma-specific Milestones, and when applicable the specific Case Logs, must be used as tools to document performance and verify that the fellow has demonstrated sufficient competence to be able to engage in autonomous practice upon completion of the program, and once he/she obtain the license to practice in orthopedic trauma. (Core)

V.A.2.a)(2) The final evaluation must:

V.A.2.a)(2)(a) become part of the fellow's permanent record maintained by the institution, and must be accessible for review by the fellow in accordance with institutional policy; (Core)

V.A.2.a)(2)(b) verify that the fellow has demonstrated the knowledge, skills, and behaviours necessary to enter autonomous practice; (Core)

V.A.2.a)(2)(c) consider recommendations from the Clinical Competency Committee (Core)

V.A.2.a)(2)(d) be shared with the fellow upon completion of the program. (Core)

V.A.3. A Clinical Competency Committee must be appointed by the program director. (Core)

V.A.3.a) The Clinical Competency Committee must include at least three members of the program faculty, at least one of whom is a core faculty member. (Core)

V.A.3.a)(1) Additional members must be faculty members from the same program or other programs, or other health professionals who have extensive contact and experience with the program's fellows. (Core)

V.A.3.a)(2) The Program Director has final responsibility for fellow evaluation and promotion decisions. (Core)

V.A.3.b) The Clinical Competency Committee must:

V.A.3.b)(1) Review all fellows evaluation at least semi-annually; (Core)

V.A.3.b)(2) determine each fellow's progress on achievement of the specialty-specific Milestones; and, (Core)

V.A.3.b)(3) meet prior to the fellows' semi-annual evaluations and advise the program director regarding each fellow's progress. (Core)

V.B. Faculty Evaluation

V.B.1. The program must have a process to evaluate each faculty member's performance as it relates to the educational program at least annually. (Core)

V.B.1.a) This evaluation must include a review of the faculty member's clinical teaching abilities, engagement with the educational program, participation in faculty development related to their skills as an educator, clinical performance, review of patient outcomes, professionalism, research, and scholarly activities. (Core)

V.B.1.b) This evaluation must include written, anonymous, and confidential evaluations by the fellows. (Core)

V.B.2. Faculty members must receive feedback on their evaluations at least annually. (Core)

V.B.3. Results of the faculty educational evaluations should be incorporated into program-wide faculty development plans. (Core)

V.C. Program Evaluation and Improvement

V.C.1. The program director must appoint the Program Evaluation Committee to conduct and document the Annual Program Evaluation as part of the program's continuous improvement process. (Core)

The performance of fellows and faculty members reflects program quality and will use metrics to reflect the program's goals.

The Program Evaluation Committee must present the Annual Program Evaluation Report in a written form to be discussed with all program faculty and fellows as a part of continuous improvement plans.

V.C.1.a) The Program Evaluation Committee must be composed of at least two program faculty members, at least one of whom is a core faculty member, and at least one fellow. (Core)

V.C.1.b) Program Evaluation Committee responsibilities must include:

V.C.1.b)(1) acting as an advisor to the program director, through program oversight; (Core)

V.C.1.b)(2) review of the program's requirements, both NIHS Emirati Board required and program self-determined goals, and the progress toward meeting them; (Core)

V.C.1.b)(3) guiding ongoing program improvement, including developing new goals based upon outcomes; (Core)

V.C.1.b)(4) review of the current operating environment to identify strengths, challenges, opportunities, and threats related to the program's mission and aims. (Core)

V.C.1.c) The Program Evaluation Committee should consider the following elements in its assessment of the program:

V.C.1.c)(1) program curriculum; (Core)

V.C.1.c)(2) outcomes from prior Annual Program Evaluation(s); (Core)

V.C.1.c)(3) NIHS letters of notification including citations, areas for improvement, and comments; (Core)

V.C.1.c)(4) the quality and safety of patient care; (Core)

V.C.1.c)(5) Aggregate fellows and the faculty:

V.C.1.c)(5)(a) well-being; (Core)

V.C.1.c)(5)(b) recruitment and retention following institutional policies; (Core)

V.C.1.c)(5)(c) workforce diversity following institutional policies; (Core)

V.C.1.c)(5)(d) engagement in quality improvement and patient safety; (Core)

V.C.1.c)(5)(e) scholarly activity; (Core)

V.C.1.c)(5)(f) Fellows and Faculty Surveys; (Core)

V.C.1.c)(5)(g) written evaluations of the program (see above). (Core)

V.C.1.c)(6) Aggregate fellow:

V.C.1.c)(6)(a) achievement of the Milestones; (Core)

V.C.1.c)(6)(b) in-training examination results; (Core)

V.C.1.c)(6)(c) board pass and certification rates; (Core)

V.C.1.c)(6)(d) graduates' performance. (Core)

V.C.1.c)(7) Aggregate faculty:

V.C.1.c)(7)(a) faculty evaluation; (Core)

V.C.1.c)(7)(b) professional development. (Core)

V.C.1.d) The Program Evaluation Committee must evaluate the program's mission and aims, strengths, areas for improvement, and threats. (Core)

V.C.1.e) The Annual Program Evaluation review, including the action plan, must:

V.C.1.e)(1) be distributed to and discussed with the members of the teaching faculty and the fellows; (Core)

V.C.1.e)(2) be submitted to the DIO. (Core)

V.C.2. The program will be accredited and reaccredited by the NIHS in accordance with NIHS Accreditation Bylaws.

V.C.2.a) The program must complete a Self-Study before its reaccreditation Site Visit. (Core)

V.C.2.b) The Self-Study is an objective, comprehensive evaluation of the fellowship program with the aim to improve it. (Detail)

V.C.3. The goal of NIHS-accredited education is to train physicians who seek and achieve a board certification. One measure of the effectiveness of the educational program is the ultimate pass rate. (Outcome)

V.C.3.a) Under the guidance of the Program Director all eligible program graduates should take the certifying examination conducted by the NIHS to obtain the Certification. (Outcome)

V.C.3.b) Graduates are eligible to sit for the Certification examination for up to three years from the date of completion of fellowship training. (Outcome)

V.C.4. During the fellowship, the fellows are strongly encouraged to sit for an organized Annual In-Training Examination. (Detail)

VI. The Learning and Working Environment

Fellowship education must occur in the context of a learning and working environment that emphasizes the following principles:

- Excellence in the safety and quality of care rendered to patients by fellows today
- Excellence in the safety and quality of care rendered to patients by today's fellows in their future practice
- Excellence in professionalism through faculty modeling of:
    - the effacement of self-interest in a humanistic environment that supports the professional development of physicians
    - the joy of curiosity, problem-solving, intellectual rigor, and discovery
- Commitment to the well-being of the fellows, faculty members, and all members of the health care team

VI.A. Patient Safety, Quality Improvement, Supervision and Accountability

VI.A.1. Patient Safety and Quality Improvement

All physicians share responsibility for promoting patient safety and enhancing quality of patient care. Program must prepare fellows to provide the highest level of clinical care with continuous focus on the safety, individual needs, and humanity of their patients. It is the right of each patient to be cared for by fellows who are appropriately supervised; possess the requisite knowledge, skills, and abilities; understand the limits of their knowledge and experience; and seek assistance as required to provide optimal patient care.

Fellows must demonstrate the ability to analyze the care they provide, understand their roles within health care teams, and play an active role in system improvement processes. Graduating fellows will apply these skills to critique their future unsupervised practice and effect quality improvement measures.

It is necessary for fellows and faculty members to consistently work in a well-coordinated manner with other health care professionals to achieve organizational patient safety goals.

VI.A.1.a) Patient Safety

VI.A.1.a)(1) Culture of Safety

A culture of safety requires continuous identification of vulnerabilities and a willingness to transparently deal with them. An effective organization has formal mechanisms to assess the knowledge, skills, and attitudes of its personnel toward safety in order to identify areas for improvement.

VI.A.1.a)(1)(a) The program, its faculty and fellows must actively participate in patient safety systems and contribute to a culture of safety. (Core)

VI.A.1.a)(1)(b) The program must have a structure that promotes safe, inter-professional, team-based care. (Core)

VI.A.1.a)(2) Education on Patient Safety

Programs must provide formal educational activities that promote patient safety-related goals, tools, and techniques. (Core)

Background and Intent: *Optimal patient safety occurs in the setting of a coordinated inter-professional learning and working environment.*

VI.A.1.a)(3) Patient Safety Events

Reporting, investigation, and follow-up of adverse events, near misses, and unsafe conditions are pivotal mechanisms for improving patient safety and are essential for the success of any patient safety program. Feedback and experiential learning are essential to developing true competence in the ability to identify causes and institute sustainable systems-based changes to ameliorate patient safety vulnerabilities.

VI.A.1.a)(3)(a) Fellows, faculty members, and other clinical staff members must:

- know their responsibilities in reporting patient safety events at the clinical site; (Core)
- know how to report patient safety events, including near misses, at the clinical site; (Core)

- be provided with summary information of their institution's patient safety reports. (Core)

VI.A.1.a)(3)(b) Fellows must participate as team members in real and/or simulated inter-professional clinical patient safety activities, such as root cause analyses or other activities that include analysis, as well as formulation and implementation of actions. (Core)

VI.A.1.a)(4) Fellow Education and Experience in Disclosure of Adverse Events

Patient-centered care requires patients, and when appropriate families, to be apprised of clinical situations that affect them, including adverse events. This is an important skill for faculty physicians to model, and for fellows to develop and apply.

VI.A.1.a)(4)(a) All fellows must receive training in how to disclose adverse events to patients and families. (Core)

VI.A.1.a)(4)(b) Fellows should have the opportunity to participate in the disclosure of patient safety events, real or simulated. (Detail)

VI.A.1.b) Quality Improvement

VI.A.1.b)(1) Education in Quality Improvement

A cohesive model of health care includes quality-related goals, tools, and techniques that are necessary for health care professionals to achieve quality improvement goals.

Fellows must receive training and experience in quality improvement processes, including an understanding of health care disparities. (Core)

VI.A.1.b)(2) Quality Metrics

Access to data is essential to prioritizing activities for care improvement and evaluating success of improvement efforts.

Fellows and faculty members must receive data on quality metrics and benchmarks related to their patient populations. (Core)

VI.A.1.b)(3) Engagement in Quality Improvement Activities

Experiential learning is essential to developing the ability to identify and institute sustainable systems-based changes to improve patient care.

Fellows must have the opportunity to participate in inter-professional quality improvement activities. (Core)

VI.A.2. Supervision and Accountability

VI.A.2.a) Although the attending physician is ultimately responsible for the care of the patient, every physician shares in the responsibility and accountability for their efforts in the provision of care. Effective programs, in partnership with their Sponsoring Institutions, define, widely communicate, and monitor a structured chain of responsibility and accountability as it relates to the supervision of all patient care.

Supervision in the setting of fellowship medical education provides safe and effective care to patients; ensures each fellow's development of the skills, knowledge, and attitudes required to enter the unsupervised practice of medicine; and establishes a foundation for continued professional growth.

VI.A.2.a)(1) Each patient must have an identifiable and appropriately-credentialed and privileged attending physician who is responsible and accountable for the patient's care. (Core)

VI.A.2.a)(1)(a) This information must be available to fellows, faculty members, other members of the health care team, and patients. (Core)

VI.A.2.a)(1)(b) Fellows and faculty members must inform each patient of their respective roles in that patient's care when providing direct patient care. (Core)

VI.A.2.b) Supervision may be exercised through a variety of methods. For some aspects of patient care, the supervising physician may be a more advanced fellow. Other portions of care provided by the fellow can be adequately supervised by the appropriate availability of the supervising faculty member, or senior fellow physician, either on site or by means of telecommunication technology. Some activities require the physical presence of the supervising faculty member. In some circumstances, supervision may include post-hoc review of fellow-delivered care with feedback.

VI.A.2.b)(1) The program must demonstrate that the appropriate level of supervision in place for all fellows is based on each fellow's level of training and ability, as well as patient complexity and acuity. Supervision may be exercised through a variety of methods, as appropriate to the situation. (Core)

VI.A.2.b)(2) The program must define when the physical presence of a supervising physician is required. (Core)

VI.A.2.c) Levels of Supervision

To promote appropriate fellow supervision while providing for graded authority and responsibility, the program must use the following classification of supervision: (Core)

VI.A.2.c)(1) Direct Supervision: the supervising physician is physically present with the fellow during the key portions of the patient interaction. (Core)

VI.A.2.c)(2) Indirect Supervision: the supervising physician is not providing physical or concurrent visual or audio supervision but is immediately available to the fellow for guidance and is available to provide appropriate direct supervision. (Core)

VI.A.2.c)(3) Oversight: the supervising physician is available to provide a review of procedures or encounters with feedback provided after care is delivered. (Core)

VI.A.2.d) The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each fellow must be assigned by the program director and faculty members. (Core)

VI.A.2.d)(1) The program director must evaluate each fellow' abilities based on specific criteria, guided by the Milestones. (Core)

VI.A.2.d)(2) Faculty members functioning as supervising physicians must delegate portions of care to fellows based on the needs of the patient and the skills of each fellow. (Core)

VI.A.2.d)(3) Fellows should serve in a supervisory role to junior fellows and residents in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual resident or fellow. (Detail)

VI.A.2.e) Programs must set guidelines for circumstances and events in which fellows must communicate with the supervising faculty member(s). (Core)

Each fellow must know the limits of their scope of authority, and the circumstances under which the fellow is permitted to act with conditional independence. (Outcome)

VI.A.2.f) Faculty supervision assignments must be of sufficient duration to assess the knowledge and skills of each fellow and to delegate to the fellow the appropriate level of patient care authority and responsibility. (Core)

VI.B. Professionalism

VI.B.1. Programs, in partnership with their Sponsoring Institutions, must educate fellows and faculty members concerning the professional responsibilities of physicians, including their obligation to be appropriately rested and fit to provide the care required by their patients. (Core)

VI.B.2. The learning objectives of the program must:

VI.B.2.a) be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events; (Core)

VI.B.2.b) be accomplished without excessive reliance on fellows to fulfill non-physician obligations; (Core)

VI.B.2.c) ensure manageable patient care responsibilities. (Core)

VI.B.3. The program director, in partnership with the Sponsoring Institution, must provide a culture of professionalism that supports patient safety and personal responsibility. (Core)

VI.B.4. Fellows and faculty members must demonstrate an understanding of their personal role in the:

VI.B.4.a) provision of patient- and family-centered care; (Outcome)

VI.B.4.b) safety and welfare of patients entrusted to their care, including the ability to report unsafe conditions and adverse events; (Outcome)

***Background and Intent**: This requirement emphasizes that responsibility for reporting unsafe conditions and adverse events is shared by all members of the team and is not solely the responsibility of the fellow.*

VI.B.4.c) assurance of their fitness for work, including: (Outcome)

VI.B.4.c)(1) management of their time before, during, and after clinical assignments; (Outcome)

VI.B.4.c)(2) recognition of impairment, including from illness, fatigue, and substance use, in themselves, their peers, and other members of the health care team. (Outcome)

VI.B.4.d) commitment to lifelong learning; (Outcome)

VI.B.4.e) monitoring of their patient care performance improvement indicators; (Outcome)

VI.B.4.f) accurate reporting of clinical and educational work hours, patient outcomes, and clinical experience data. (Outcome)

VI.B.5. All fellows and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. This includes the recognition that under certain circumstances, the best interests of the patient may be served by transitioning that patient's care to another qualified and rested provider. (Outcome)

VI.B.6. Programs, in partnership with their Sponsoring Institutions, must provide a professional, equitable, respectful, and civil environment that is free from discrimination, sexual and other forms of harassment, mistreatment, abuse, or coercion of fellows, faculty, and staff. (Core)

VI.B.7. Programs, in partnership with their Sponsoring Institutions, should have a process for education of fellows and faculty regarding unprofessional behavior and a confidential process for reporting, investigating, and addressing such concerns. (Core)

VI.C. Well-Being

Psychological, emotional, and physical well-being are critical in the development of the competent, caring, and resilient physician and require proactive attention to life inside and outside of medicine. Well-being requires that physicians retain joy in medicine while managing their own real-life stresses. Self-care and responsibility to support other members of the health care team are important components of professionalism; they are also skills that must be modeled, learned, and nurtured in the context of other aspects of fellowship training.

Fellows and faculty members are at risk for burnout and depression. Programs, in partnership with their Sponsoring Institutions, have the same responsibility to address well-being as other aspects of fellow competence. Physicians and all members of the health care team share responsibility for the well-being of each other. For example, a culture which encourages covering for colleagues after an illness without the expectation of reciprocity reflects the ideal of

professionalism. A positive culture, in a clinical learning environment, models constructive behaviors and prepares fellows with the skills and attitudes needed to thrive throughout their careers.

VI.C.1. The responsibility of the program, in partnership with the Sponsoring Institution, to address well-being must include:

VI.C.1.a) efforts to enhance the meaning that each fellow finds in the experience of being a physician, including protecting time with patients, minimizing non-physician obligations, providing administrative support, promoting progressive autonomy and flexibility, and enhancing professional relationships; (Core)

VI.C.1.b) attention to scheduling, work intensity, and work compression that impacts fellow well-being; (Core)

VI.C.1.c) evaluating workplace safety data and addressing the safety of fellows and faculty members; (Core)

VI.C.1.d) policies and programs that encourage optimal fellow and faculty member well-being; (Core)

VI.C.1.e) attention to fellow and faculty member burnout, depression, and substance use disorders.

The program, in partnership with its Sponsoring Institution, must educate faculty members and fellows in identification of the symptoms of burnout, depression, and substance use disorders, including means to assist those who experience these conditions. Fellows and faculty members must also be educated to recognize those symptoms in themselves and how to seek appropriate care. The program, in partnership with its Sponsoring Institution, must: (Core)

VI.C.1.e)(1) encourage fellows and faculty members to alert the program director or other designated personnel or programs when they are concerned that another fellow, or faculty member may be displaying signs of burnout, depression, a substance use disorder, suicidal ideation, or potential for violence; (Core)

VI.C.1.e)(2) provide access to appropriate tools for self-screening; (Core)

VI.C.1.e)(3) provide access to confidential, affordable mental health assessment, counseling, and treatment, including access to urgent and emergent care 24 hours a day, seven days a week. (Core)

VI.C.2. There are circumstances in which fellows may be unable to attend work, including but not limited to fatigue, illness, family emergencies, and parental leave. Each program must allow an appropriate length of absence for fellows unable to perform their patient care responsibilities. (Core)

VI.C.2.a) The program must have policies and procedures in place to ensure coverage of patient care. (Core)

VI.C.2.b) These policies must be implemented without fear of negative consequences for the fellow who is or was unable to provide the clinical work. (Core)

Background and Intent: *Fellows may need to extend their length of training depending on length of absence and specialty board eligibility requirements. Teammates should assist colleagues in need and equitably reintegrate them upon return.*

VI.D. Fatigue Mitigation

VI.D.1. Programs must:

VI.D.1.a) educate all faculty members and fellows to recognize the signs of fatigue and sleep deprivation; (Core)

VI.D.1.b) educate all faculty members and fellows in alertness management and fatigue mitigation processes; (Core)

VI.D.1.c) encourage fellows to use fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning. (Detail)

VI.D.2. Each program must ensure continuity of patient care, consistent with the program's policies and procedures, if a fellow may be unable to perform their patient care responsibilities due to excessive fatigue. (Core)

VI.D.3. The program, in partnership with its Sponsoring Institution, must ensure adequate sleep facilities and safe transportation options for fellows who may be too fatigued to safely return home. (Core)

VI.E. Clinical Responsibilities, Teamwork, and Transitions of Care

VI.E.1. Clinical Responsibilities

The clinical responsibilities for each fellow must be based on PGY level, patient safety, fellow ability, severity and complexity of patient illness/condition, and available support services. (Core)

VI.E.1.a) As fellows progress through levels of increasing competence and responsibility, work assignments must keep pace with their advancement. (Core)

VI.E.1.b) The program should ensure that the workload associated with optimal clinical care of surgical patients is a continuum from the moment of admission to the point of discharge. (Detail)

VI.E.2. Teamwork

Fellows must care for patients in an environment that maximizes communication. This must include the opportunity to work as a member of effective interprofessional teams that are appropriate to the delivery of care in the specialty and larger health system. (Core)

VI.E.2.a) Fellows must assume personal responsibility to complete all tasks to which they are assigned (or which they voluntarily assume) in a timely fashion. These tasks must be completed in the hours assigned, or, if that is not possible, fellows must learn and utilize the established methods for handing off remaining tasks to another member of the fellow team so that patient care is not compromised. (Core)

VI.E.2.b) Lines of authority must be defined by programs, and all fellows must have a working knowledge of these expected reporting relationships to maximize quality care and patient safety. (Core)

VI.E.3. Transitions of Care

VI.E.3.a) Programs must design clinical assignments to optimize transitions in patient care, including their safety, frequency, and structure. (Core)

VI.E.3.b) Programs, in partnership with their Sponsoring Institutions, must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care and patient safety. (Core)

VI.E.3.c) Programs must ensure that fellows are competent in communicating with team members in the hand-over process. (Outcome)

VI.E.3.d) Programs and clinical sites must maintain and communicate schedules of attending physicians and fellows currently responsible for care. (Core)

VI.E.3.e) Each program must ensure continuity of patient care, consistent with the program's policies and procedures, if a fellow may be unable to perform their patient care responsibilities due to excessive fatigue or illness, or family emergency. (Core)

VI.F. Clinical Experience and Education

Programs, in partnership with their Sponsoring Institutions, must design an effective program structure that is configured to provide fellows with educational and clinical experience opportunities, as well as reasonable opportunities for rest and personal activities.

VI.F.1. Maximum Hours of Clinical and Educational Work per Week

Clinical and educational work hours must be limited to no more than 80 hours per week, averaged over a four-week period, inclusive of all in-house clinical and educational activities and clinical work done from home. (Core)

VI.F.2. Mandatory Time Free of Clinical Work and Education

VI.F.2.a) The program must design an effective program structure that is configured to provide fellows with educational opportunities, as well as reasonable opportunities for rest and personal well-being. (Core)

VI.F.2.b) Fellows should have eight hours off between scheduled clinical work and education periods. (Detail)

There may be circumstances when fellows choose to stay to care for their patients or return to the hospital with fewer than eight hours free of clinical experience and education. This must occur within the context of the 80-hour and the one-day-off-in-seven requirements. (Detail)

VI.F.2.c) Fellows must have at least 14 hours free of clinical work and education after 24 hours of in-house call. (Core)

VI.F.2.d) Fellows must be scheduled for a minimum of one day in seven free of clinical work and required education (when averaged over four weeks). At-home call cannot be assigned on these free days. (Core)

VI.F.3. Maximum Clinical Work and Education Period Length

VI.F.3.a) Clinical and educational work periods for fellows must not exceed 24 hours of continuous scheduled clinical assignments. (Core)

VI.F.3.a)(1) Up to four hours of additional time may be used for activities related to patient safety, such as providing effective transitions of care, and/or fellow education. (Core)

VI.F.3.a)(1)(a) Additional patient care responsibilities must not be assigned to a fellow during this time. (Core)

VI.F.4. Clinical and Educational Work Hour Exceptions

VI.F.4.a) In rare circumstances, after handing off all other responsibilities, a fellow, on their own initiative, may elect to remain or return to the clinical site in the following circumstances:

VI.F.4.a)(1) to continue to provide care to a single severely ill or unstable patient; (Detail)

VI.F.4.a)(2) humanistic attention to the needs of a patient or family; or, (Detail)

VI.F.4.a)(3) to attend unique educational events. (Detail)

VI.F.4.b) These additional hours of care or education will be counted toward the 80-hour weekly limit. (Detail)

VI.F.5. Moonlight

Fellows are not permitted to moonlight. (Core)

VI.F.6. In-House Night Float

Night float must occur within the context of the 80-hour and one- day-off-in-seven requirements. (Core)

VI.F.6.a) Any rotation that requires fellows to work nights in succession is considered a night float rotation, and the total time on nights must be counted toward the maximum hours of clinical and educational work per week for each fellow. (Core)

VI.F.6.b) Night float rotations must not exceed two months in succession, or three months in succession for rotations with night shifts alternating with day shifts. (Core)

VI.F.6.c) There can be no more than four months of night float per year. (Core)

VI.F.6.d) There must be at least two months between each night float rotation. (Core)

VI.F.7. Maximum In-House On-Call Frequency

In-house call is defined as those duty hours beyond the normal workday, when fellows are required to be immediately available in the assigned institution. The objective of on-call activities is to provide fellows with continuity of patient care experiences throughout a 24-hour period.

Fellows must be scheduled for in-house call no more frequently than every third night (when averaged over a four-week period). (Core)

VI.F.7.a) Continuous on-site duty, including in-house call, must not exceed 24 consecutive hours. Optimally, fellows should remain on duty for up to only four (4) additional hours to participate in didactic activities, transfer care of patients, conduct outpatient clinics, and maintain continuity of medical and surgical care. Exceptions to the duty hours are allowed for rare circumstances that are outstanding educational opportunities. (Core)

VI.F.8. At-Home Call

At-home call (or pager call) is defined as a call taken from outside the assigned institution.

VI.F.8.a) Time spent on patient care activities by fellows on at-home call must count toward the 80-hour maximum weekly limit. (Core)

VI.F.8.b) Fellows are permitted to return to the hospital while on at-home call to provide direct care for new or established patients. These hours of inpatient patient care must be included in the 80-hour maximum weekly limit. (Detail)

VI.F.8.c) The frequency of at-home call is not subject to the every-third-night limitation. (Detail)

VI.F.8.d) The program director and the faculty must monitor the demands of at-home call in their programs, and make scheduling adjustments as necessary to mitigate excessive service demands and/or fatigue. (Core)

*Core Requirements: Statements that define structure, resource, or process elements essential to every graduate medical educational program.

†Detail Requirements: Statements that describe a specific structure, resource, or process, for achieving compliance with a Core Requirement. Programs and sponsoring institutions in substantial compliance with the Outcome Requirements may utilize alternative or innovative approaches to meet Core Requirements.

‡Outcome Requirements: Statements that specify expected measurable or observable attributes (knowledge, abilities, skills, or attitudes) of fellows at key stages of their graduate medical education.

Appendix 1

Case minimums

Case minimums are presented for essential cases. Desired cases are to be tracked and considered by the program director at the time of graduation.

1. Waiver authority for essential case minimum lies with the CCC and ultimately the Program Director. (Core)
2. Fellows must document their operative experience in a timely manner by reporting all cases and patient management encounters in the Case Log System. (Core)
3. Cadaveric and animal training models may be counted for completion against no more than one of each procedure category in Case Log System. (Core)
4. Fellows must demonstrate competence in operative and non-operative procedures to the head and neck, including: (Core)

    4.1. Exposures/Incisions

PROCEDURE	Required Number
Neck exploration	5
Neck explorations include collar incisions, sternocleidomastoid incisions, and thoracic extensions to the neck for vascular exposure. *Elective cases that provide additional operative exposure to essential structures of the neck include thyroidectomy, parathyroidectomy, and cervical lymphadenectomy.* *ASSET course may be used to satisfy 1 case requirement for all categories.*	

    4.2. Organ Management

ORGAN	PROCEDURE	Required Number
Trachea	Tracheostomy (either percutaneous or open)	10
	Cricothyroidotomy	1
Brain	Burr hole ICP monitor	Desired
	Craniotomy/craniectomy	
Eye	Canthotomy	Desired
Trachea	Tracheal resection/repair	Desired
Esophagus	Esophageal resection/repair	Desired

5. Fellows must demonstrate competence in performing thoracic trauma procedures, including: (Core)

    5.1. Exposures/Incisions

PROCEDURE	Required Number
Thoracotomy	10
Thoracoscopy	10
Sternotomy	10
Pericardiotomy	5
Pericardiotomy includes sub-xiphoid, transdiaphragmatic and transthoracic approaches including open cardiac massage following resuscitative thoracotomy.	

5.2. Organ Management

ORGAN	PROCEDURE	Required Number
Lung	Pleural Space	5
	Lung Parenchyma	5
	Bronchoscopy	20
	intercostal drainage placement	20
Diaphragm		3
Heart		5
	Diaphragm repair	Desired
	Cardiac repair	Desired
	Trachea/bronchus repair or resection	Desired
	Esophageal repair or resection	Desired
	Lung parenchymal repair	Desired
	Chest wall resection or reconstruction (includes rib plating)	Desired
	Thoracic great vessel repair or reconstruction – open or endovascular	Desired
	ECMO/extracorporeal bypass	Desired
Diaphragm cases may include thoracoabdominal exposure for spine surgery. *Cardiac cases may include elective or emergent cases requiring cardiac suture or repair.*		

6. Fellows must demonstrate competence in performing abdominal trauma procedures, including: (Core)

6.1. Exposures/Incisions

PROCEDURE	Required Number
Enteral access	5
Laparotomy	20
Diagnostic laparoscopy	10

Hepatic mobilization	2
Damage control techniques	3
Complex laparoscopy	10
Complex laparoscopy includes colectomy, lysis of adhesions, common bile duct exploration, Graham patch, hernia repair, or enteral access.	

6.2. Organ Management

ORGAN	PROCEDURE	Required Number
Liver	Re-exploration of hepatic wound, hepatotomy, hepatectomy (donor or partial), transplantation	5
	Management of hemorrhage	3
Spleen	Splenectomy, splenorrhaphy	2
Kidney	Exploration, nephrectomy (partial or complete), repair, transplant	Desirable
Pancreas	Drainage, resection, repair, transplant	Desirable
Stomach	Gastric resection or repair	5
Duodenum	duodenal resection or repair	5
Small intestine	Resection, resection, repair	10
	Lysis of adhesions, management volvulus, intussusception, internal hernia	Desirable
Colon and Rectum	Colectomy, colostomy, repair	10
	Management rectal injury	2
Biliary system	Biliary system drainage or repair	Desirable
	Partial or subtotal cholecystectomy, common bile duct exploration, hepaticoenterostomy; open cholecystectomy	3
Bladder	Repair, resection	Desirable
Ureter	Repair, stent	Desirable
	Abdominal wall reconstruction	Desirable

7. Fellows must demonstrate competence in performing vascular trauma procedures, including: (Core)

7.1. Exposures/Incisions

PROCEDURE	Required Number
Left medial visceral rotation	2
Right medial visceral rotation	2
Infrarenal aorto-pelvic exposure	2
Brachial artery exposure	2

Femoral artery exposure	5
Popliteal artery exposure	2
Management of arterial injuries	10
Lower leg fasciotomy	5
Amputation of extremity	5
Retrograde balloon occlusion of aorta Trap door incision Cervical extension from sternotomy Supraclavicular incision Infraclavicular incision	Desired

7.2. Organ Management

PROCEDURE	Required Number
Management of arterial injury or occlusion	10
Open arterial bypass graft	5
On-table arteriography	5
Thromboembolectomy	Desired
Repair arteriotomy or venous injury	5
Fasciotomy	5
Placement IVC Filter Amputation of extremity	Desired

8. Fellows must demonstrate competence in utilizing ultrasound imaging techniques, including: (Core)

PROCEDURE	Required Number
Focused abdominal sonography for trauma	25
US evaluation of cardiac function	10
US guided drainage of pleural space	10
US guided central venous cannulation placement	20
TEE Percutaneous cholecystectomy US guided pericardiocentesis US guided IVC filter placement	Desired

9. Fellows must demonstrate competence in management of complex traumatically injured patients, including: (Core)

PATIENT INJURY COMPLEX	Required Number
Patients with ISS > 25	15
Patient receiving massive transfusion protocol (10 units RBCs/24 hrs)	10
Grade 4-5 liver injury	5
Thoracic injury with AIS > 4	5
Unilateral flail segment > 3 ribs with contusion	10
Bilateral flail chest >3 rib fx with hemoPTX	Desired
Bilateral > 3 rib fx with or without hemoPTX	Desired
Open "sucking" chest wound	2
Major pulmonary vascular injury	Desired
Complex/rupture of bronchus distal to mainstem	Desired
Lung laceration with hemothorax with >20% volume blood loss	Desired
Lung laceration with a tension PTX	5
Unstable pelvic fx (hemodynamically unstable requiring red cell transfusion	5
Traumatic brain injuries with intracranial hypertension	5
Management of blunt descending aortic injury	2

10. Fellows must demonstrate competence in performing emergency general surgery procedures, including: (Core)

PATIENT SEVERITY OF ILLNESS	Required Number
Damage control surgery technique for emergency general surgery	2
Necrotizing soft tissue infection with sepsis	2
Perforated viscus with sepsis	2

Acknowledgment

A special gratitude to the Trauma Surgery and Surgical Critical Care Committee for their contribution to preparing the NIHS Trauma Surgery and Surgical Critical Care Program Requirements.

Chairman:

Dr. Jordan L. Guice

Members:

Dr. Erik Desoucy

Dr. Ahmed Yahya Alkindi Alsayari


المعهد الوطني للتخصصات الصحية
NATIONAL INSTITUE FOR HEALTH SPECIALITIES