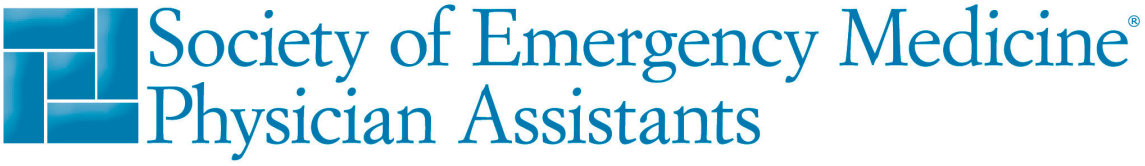

Emergency Medicine Physician Assistant Postgraduate Training Program Standards

Version 1.0
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This document was developed by SEMPA Postgraduate Education Committee and approved by the SEMPA Board of Directors on October 26, 2014.

SEMPA would like to thank the members of the Postgraduate Education Committee for their time, efforts, insight, and collaboration in the development of these standards. The volunteer participation to such an important initiative is commended.

Postgraduate Committee Chair
Lynn Scherer, PA-C

Postgraduate Committee Members
Matthew Boutte, PA-C
Bartholomew Cambria, PA-C
Scott Fillman, PA-C
John Graykoski, PA-C
Jonathan Lerner, PA-C
Adam Lloyd, PA-C
Mary Masterson, PA-C
Douglas McGee, DO, FACOEP, FACEP
Gregory Raines, PA-C
Dennis Tankersley, PA-C
Ann Verhoeven, PA-C
Mary Jo Wagner, MD, FACEP
Fred Wu, PA-C

INTRODUCTION

In March of 1990, the Society of Emergency Medicine Physician Assistants (SEMPA) was formed by a small group of former EM postgraduate residents. The organization was established to a) serve as the representative body for emergency medicine physician assistants; b) provide EMPAs with information about issues affecting the practice of emergency medicine; c) advise PAs about the potential for regulatory or advisory agencies or other professional organizations to exert regulatory control over the practice of emergency medicine; and d) develop guidelines on the role of the physician assistant in emergency medicine.

SEMPA grew throughout the 1990s, gaining members from EDs of all varieties including urban trauma centers, academic medical centers, suburban and rural hospitals. From a small group of former postgraduate residents trying to find the pulse of the nation's PAs in emergency medicine, SEMPA is proud to have become a highly respected and dedicated group of emergency medicine physician assistants whose sole purpose is to represent those who, along with our emergency department team, provide the highest quality emergency care to patients.

Since its inception, SEMPA has seen a tremendous growth of support for the utilization of physician assistants within the Emergency Department. As a result of the increased utilization, there has also been an increased desire expressed by our physician colleagues to provide avenues of additional training in Emergency Medicine, for those who are new to the profession and the specialty alike, to assist in their necessary and important integration into emergency medicine departments both nationwide and internationally.

In 2012, SEMPA published emergency medicine physician assistant (EMPA) postgraduate training guidelines in an effort to provide a framework that new and existing EMPA postgraduate programs could utilize to improve or create EMPA postgraduate programs, a tip of the hat to its founders. In 2013, the SEMPA Board of Directors created a Postgraduate Education Committee and charged that committee to create programmatic standards for individual EMPA postgraduate programs to meet. SEMPA's goal is to ensure that these minimum standards are recognized and implemented by "SEMPA-Approved" programs, provide assurance to the physician assistant interested in these programs that they will receive a comprehensive EM training experience, and that the interests of those program participants are at the forefront. Additionally, SEMPA's goal is to develop an EMPA postgraduate educational standard that will create a consistent and expected outcome for those employing the individuals who complete these programs. And finally, SEMPA's definitive desired outcome is to shape an educational process that demands, promotes, and results in EMPA's offering the exceptional level of care that their patients deserve.

SEMPA strongly encourages physician groups, hospitals and educational institutions to adopt training and educational opportunities to prepare physician assistants seeking to practice emergency medicine. The following is the summary of standards developed by SEMPA for postgraduate training programs in emergency medicine for physician assistants. Portions of this document have been adapted from other documents that are already in place in graduate medical education. A list of references can be found at the end of this document.

SUMMARY OF STANDARDS

General

1. Provide a minimum of 3,000 hours or 18 months in an EMPA postgraduate training program.

2. The primary clinical site in which EMPA residents/fellows rotate must have at least 30,000 emergency department visits annually.

3. The EMPA program director must be an emergency medicine physician assistant (EMPA) with at least 5 years of emergency medicine clinical experience; actively practicing emergency medicine, and have clear educational and administrative acumen.

4. The medical director of the EMPA fellowship/residency must be a board certified emergency physician.

Didactic Training

5. Didactic experiences should include administrative seminars, journal review, presentations based on the defined curriculum, morbidity and mortality conferences, and research seminars.

6. There must be an average of at least four (4) hours per week of planned didactic experiences developed by the Program's faculty members.

7. EMPA residents/fellows are expected to actively participate in 100% of the planned didactic experiences offered. The EMPA postgraduate program may, however, specifically delineate circumstances under which an EMPA fellow's/resident's participation in a given didactic experience may not be absolutely required. The sum total of such exceptional circumstances should be kept to a minimum. The EMPA resident/fellow must participate in an absolute minimum of 70% of planned didactic experiences.

8. The EMPA postgraduate programs are expected to follow the SEMPA Model of Clinical Practice in Emergency Medicine. It should prepare the physician assistant to manage critical, emergent, and lower acuity patients within the emergency setting.

9. The overall objective of the didactic portion of the EMPA postgraduate program is to provide sufficient breadth and depth of content specific to emergency medicine.

Clinical Training

10. The clinical structure of the EMPA postgraduate programs must meet the following clinical training standards:

    A. Emergency medicine specific training should encompass a minimum 1500 hours and at least 50% of the total time in the EMPA postgraduate program (i.e. if the program is 18-months in length, EM specific training should include 1500 hours and at least 9 months of EM specific clinical experiences).

B. At least 15% of all encounters must be dedicated to the care of pediatric patients less than 18 years of age.

C. EMPA residents/fellows should treat a significant number of the critically-ill or critically injured patients; approximating at least one month or 160 hours of critical care experience overall. These experiences can occur within the emergency department or on an off-service rotation.

D. The EMPA residents/fellows must have significant direct patient care experiences specific to the specialties of orthopedics and surgery. Each of these experiences should approximate at least one month or 160 hours overall during the EMPA postgraduate program. These experiences can occur within the emergency department or on an off-service rotation.

Procedural Competency

11. Procedural competency is a complex issue. Individual EMPA postgraduate programs are expected to determine to whom their EMPA residents/fellows must demonstrate and document competency. This may include both direct observation as well as simulation.

12. Although numbers alone do not demonstrate competency, the following is a list of the minimum procedural experiences which the EMPA residents/fellows must perform either in direct patient contact or simulation during the EMPA postgraduate program:

Procedure	Minimum Number
Endotracheal Intubation	15
Central Line	10
Bedside US	40 hours
Paracentesis	3
Intraosseous Needle Placement	2
Laceration Repair	25
Joint/Fracture Reduction	10
Arthrocentesis	5
Corneal Foreign Body Removal	3
Lumbar Puncture	8
Abscess Incision & Drainage	10
Procedural Sedation	5
Chest Tube Insertion	3
Adult Resuscitation	10
Pediatric Resuscitation	5
Splinting	10 each extremity
Utilization of Slit Lamp	20
Cricothyroidotomy	3
A-line placement	4

13. The EMPA postgraduate program will require the EMPA residents/fellows to maintain a log of their procedures and the EMPA postgraduate program will maintain a copy of the documentation of the EMPA resident/fellow's competency.

Research and Scholarship

The EMPA postgraduate program will encourage their EMPA residents/fellows to participate in a research project and/or publication during the EMPA postgraduate program. The EMPA postgraduate program will require their EMPA residents/fellows to participate in a scholarly project.

Completion of EMPA postgraduate Program

Completion of an EMPA postgraduate training program in emergency medicine should prepare the candidate to sit for the Certificate of Added Qualifications (CAQ) granted through the National Commission on Certification of Physician Assistants (NCCPA). Additionally, there is significant value in developing a universal internal metric for postgraduate programs to utilize annually in evaluating their program's performance relative to all other EMPA postgraduate programs throughout the country. SEMPA will continue to evaluate and make recommendations regarding the use and development of a universal internal metric.

Each EMPA resident/fellow must meet all the requirements set forth for the didactic, clinical, and procedural guidelines. Additionally, each EMPA resident/fellow must meet the requirements of professional and ethical behavior as outline in the SEMPA Board Compendium. Each postgraduate program must provide honest, objective data, and feedback to EMPA residents/fellows and provide accurate references to future employers upon completion of the postgraduate program.

Integration

SEMPA suggests that if an EMPA postgraduate training program exists in an institution that has a physician EM residency that it operate in parallel with physician EM residencies to build team experience and competency. Additionally, EMPA program directors should work in conjunction with EM physician program directors to ensure the best possible didactic, clinical, and procedural experiences for ***all*** learners.

Recognition/Accreditation

The goal of each EMPA postgraduate program should be to meet the Standards as outlined in this document and follow the process that SEMPA delineates to obtain official recognition as a "SEMPA Approved" EMPA postgraduate program. Additionally, each EMPA postgraduate program should obtain and maintain accreditation of the EMPA postgraduate program through an appropriate recognized body when available.

Collaboration

Work collaboratively with SEMPA and other EMPA postgraduate programs to share resources and curricula with other entities that are providing or developing postgraduate specialty training programs in emergency medicine and commit to assisting new and start-up EMPA postgraduate programs.

DEFINITIONS

Primary Site

The primary clinical site is the medical institution in which the EMPA postgraduate program is based, in which the majority of the clinical rotations and didactic education are done. Office space for the EMPA postgraduate program personnel shall be provided here.

Critical Care

Critical illness or injury that acutely impairs one or more vital organ systems such that there is a high probability of imminent or life threatening deterioration in the patient's condition.
Critical Care services are defined as the direct delivery of medical care for a critically ill or critically injured patient. It involves decision making of high complexity to assess, manipulate, and support vital organ system failure and/or to prevent further life threatening deterioration of the patient's condition. Examples of vital organ system failure include, but are not limited to: central nervous system failure, circulatory failure, shock, renal, hepatic, metabolic, and/or respiratory failure.

SEMPA Program Requirements for Physician Assistant Postgraduate Medical Education in Emergency Medicine[1]

Introduction

The specialty education of physician assistants to practice emergency medicine is experiential, and necessarily occurs within the context of the health care delivery system. Developing the skills, knowledge, and attitudes leading to proficiency in all the domains of clinical competency requires the physician assistant to assume personal responsibility for the care of individual patients in an educational setting. For the physician assistant resident/fellow, the essential learning activity is interaction with patients under the guidance and supervision of faculty members who give value, context, and meaning to those interactions. As emergency medicine physician assistant (EMPA) residents/fellows gain experience and demonstrate growth in their ability to care for patients, they assume roles that permit them to exercise those skills with greater independence. This concept-graded and progressive responsibility is one of the core tenets of American graduate medical education. Supervision in the setting of graduate medical education has the goals of assuring the provision of safe and effective care to the individual patient; assuring each resident'/s fellow's development of the skills, knowledge, and attitudes required to practice medicine proficiently; and establishing a foundation for continued professional growth.

Postgraduate medical training in emergency medicine prepares physician assistants for the practice of emergency medicine. These EMPA postgraduate programs must teach the fundamental skills, knowledge, and humanistic qualities that constitute the foundations of emergency medicine practice. These EMPA postgraduate programs provide progressive responsibility and experience in these areas to enable effective management of clinical problems. EMPA residents/fellows must have the opportunity, under the guidance and supervision of a qualified faculty member, to develop a satisfactory level of clinical maturity, judgment, and technical skill. On completion of the EMPA postgraduate program, EMPA residents/fellows should be capable of practicing emergency medicine, able to incorporate new skills and knowledge during their careers, and able to monitor their own physical and mental well-being.

EMPA postgraduate programs in emergency medicine are typically configured in 12-month or 18-month format.

Sponsoring Institution

One sponsoring institution must assume ultimate responsibility for the EMPA postgraduate program, as described in the Institutional Requirements, and this responsibility extends to EMPA resident/fellow assignments at all participating sites.

The sponsoring institution and the EMPA postgraduate program must ensure that the EMPA program director has sufficient protected time and financial support for his or her educational and administrative responsibilities to the program.

The sponsoring institution and participating sites must:

- provide salary support and/or protected time for the EMPA program director;
- provide salary support and/or protected time for all core faculty members.

Participating Sites

There must be a Program Letter of Agreement (PLA) between the EMPA postgraduate program and each participating site providing an assignment. The PLA must be renewed at least every five years. This does not apply to the activities/rotations at the primary site.

The PLA should:

- Identify the faculty who will assume both educational and supervisory responsibilities for EMPA residents/fellows;

- Specify their responsibilities for teaching, supervision, and formal evaluation of EMPA residents/fellows, as specified later in this document;

- Specify the duration and content of the educational experience; and,

- State the policies and procedures that will govern EMPA resident/fellow education during the assignment.

The EMPA postgraduate program should be based at the primary clinical site.

EMPA postgraduate programs using multiple participating sites must ensure the provision of a unified educational experience for the EMPA residents/fellows.

Each participating site must offer significant educational opportunities to the overall EMPA postgraduate program.

EMPA Postgraduate Program Personnel and Resources

EMPA Program Director

There must be a single EMPA program director with authority and accountability for the operation of the EMPA postgraduate program.

The EMPA program director should continue in his or her position for a length of time adequate to maintain continuity of leadership and program stability.

Qualifications of the EMPA program director must include:

- Requisite specialty expertise and a clear strong interest in education and administration;

- Current medical licensure and appropriate medical staff appointment; and,

- At least five years experience as a physician assistant practicing emergency medicine.

The EMPA program director must administer and maintain an educational environment conducive to educating the EMPA residents/fellows.

The EMPA program director must oversee and ensure the quality of didactic and clinical education in all sites that participate in the EMPA postgraduate program.

The EMPA program director must be clinically active in emergency medicine.

The EMPA program director should not work more than 30 hours per week clinically, on average, or 1560 clinical hours per year and no less than 12 hours per week clinically, on average, or 624 hours per year.

The EMPA program director must:

- Approve the selection of program faculty as appropriate;
- Evaluate program faculty;
- Approve the continued participation of program faculty based on evaluation;
- Monitor EMPA resident/fellow supervision at all participating sites;
- Ensure compliance with grievance and due process procedures as set forth in the Institutional Requirements and implemented by the sponsoring institution;
- Provide verification of education for all EMPA residents/fellows, including those who leave the program prior to completion;
- Implement policies and procedures consistent with the institutional and EMPA postgraduate program requirements for EMPA resident/fellow duty hours and the working environment, including moonlighting,

and, to that end, must:

- Distribute these policies and procedures to the EMPA residents/fellows and faculty;
- Monitor EMPA resident/fellow duty hours, according to sponsoring institutional policies;
- Adjust schedules as necessary to mitigate excessive service demands and/or fatigue;
- If applicable, monitor the demands of at-home call and adjust schedules as necessary to mitigate excessive service demands and/or fatigue;
- Monitor the need for and ensure the provision of back up support systems when patient care responsibilities are unusually difficult or prolonged;
- Comply with the sponsoring institution's written policies and procedures.

Faculty

At each participating site, there must be a sufficient number of faculty with documented qualifications to instruct and supervise all EMPA residents/fellows at that location.

The faculty must:

- Devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities; and to demonstrate a strong interest in the education of EMPA residents/fellows;

- Administer and maintain an educational environment conducive to educating EMPA residents/fellows.

- Have current certification in the specialty by the American Board of Emergency Medicine, or possess acceptable qualifications.

- Possess current medical licensure and appropriate medical staff appointment.

- Regularly participate in organized clinical discussions, rounds, journal clubs, and conferences.

Faculty should encourage and support EMPA residents/fellows in scholarly activities.

Other EMPA Postgraduate Program Personnel

The institution and the EMPA postgraduate program must jointly ensure the availability of all necessary professional, technical, and clerical personnel for the effective administration of the program.

Resources

The institution and the EMPA postgraduate program must jointly ensure the availability of adequate resources for EMPA postgraduate education, as defined in the emergency medicine EMPA postgraduate program requirements.

At every site in which the emergency department provides EMPA postgraduate education, the following must be provided:

- Adequate space for patient care;

- Space for clinical support services;

- Diagnostic imaging completed and results available on a timely basis, especially those required on a STAT basis;

- Laboratory studies completed and results available on a timely basis, especially those required on a STAT basis;

- Office space for the EMPA postgraduate program director, core faculty members, and EMPA residents/fellows;

- Instructional space;

- Information systems; and,

- Appropriate security services and systems to ensure a safe working environment.

Clinical support services must include nursing, clerical, intravenous, electrocardiogram (EKG), respiratory therapy, messenger/transporter, and phlebotomy, and must be available on a 24-hour basis.

Office space for program coordinators and additional support personnel must be provided at the primary clinical site.

Each clinical site must provide timely consultation from services based on a patient's acuity.

If any clinical services are not available for consultation or admission, each clinical site must have a written protocol for provision of these services elsewhere.

Each clinical site must ensure timely consultation decisions by a provider from admitting and consulting services with decision-making authority.

The patient population must include patients of all ages and genders as well as patients with a wide variety of clinical problems.

The primary clinical site to which EMPA residents/fellows rotate must have at least 30,000 emergency department visits annually.

The primary clinical site should have a significant number of critically-ill or critically-injured patients constituting at least three percent or 1200 (whichever is greater) of the emergency department patients per year.

EMPA residents/fellows must be provided with prompt, reliable systems for communication and interaction with supervisory physicians.

Medical Information Access

EMPA residents/fellows must have ready access to specialty-specific and other appropriate reference material in print or electronic format. Electronic medical literature databases with search capabilities should be available.

Number of EMPA residents/fellows

The EMPA postgraduate program's educational resources must be adequate to support the number of EMPA residents/fellows appointed to the program.

Educational EMPA postgraduate Program

The curriculum must contain the following educational components:

- Overall educational goals for the EMPA postgraduate program, which the program must make available to EMPA residents/fellows and faculty;

- Competency-based goals and objectives for each assignment at each educational level, which the EMPA postgraduate program must distribute to EMPA residents/fellows and faculty at least annually, in either written or electronic form;

- Regularly scheduled didactic sessions;

- Didactic experiences should include administrative seminars, journal review, presentations based on the defined curriculum, morbidity and mortality conferences, and research seminars;

- Educational methods should include problem-based learning, evidence-based learning, and computer-based instruction;

- The majority of didactic experiences must occur at the primary clinical site;

- There must be an average of at least four (4) hours per week of planned didactic experiences developed by the program's faculty members;

- Individualized interactive instruction must not exceed 20 percent of the planned didactic experiences;

- Didactic experiences should be supervised by core faculty members;

- EMPA residents/fellows must actively participate, on average, in at least 70 percent of the planned didactic experiences offered;

- All planned didactic experiences must have an evaluative component to measure EMPA resident/fellow participation and educational effectiveness; and,

- Delineation of EMPA resident/fellow responsibilities for patient care, progressive responsibility for patient management, and supervision of EMPA residents/fellows over the continuum of the program.

Competencies

The EMPA postgraduate program must integrate the following ACGME competencies into the curriculum:

Patient Care and Procedural Skills

EMPA residents/fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. EMPA residents/fellows must demonstrate proficiency in:

- Synthesizing essential data necessary for the correct management of a patient with multiple chronic medical problems and, when appropriate, comparing with a prior medical record and identifying significant differences between the current presentation and past presentations;

- Generating an appropriate differential diagnosis;

- Applying the results of diagnostic testing based on the probability of disease and the likelihood of test results altering management;

- Narrowing and prioritizing the list of weighted differential diagnoses to determine appropriate management based on all of the available data;

- Implementing an effective patient management plan;

- Selecting and prescribing appropriate pharmaceutical agents based upon relevant considerations, such as: allergies; clinical guidelines; intended effect; financial considerations; institutional policies; mechanism of action; patient preferences; possible adverse effects; and potential drug-food and drug-drug interactions; and effectively combining agents and monitoring and intervening in the advent of adverse effects in the emergency department;

- Progressing along a continuum of managing a single patient, to managing multiple patients and resources efficiently within the emergency department;

- Providing health care services aimed at preventing health problems or maintaining health;

- Working with health care professionals to provide patient-focused care;

- Identifying life-threatening conditions and the most likely diagnosis, synthesizing acquired patient data, and identifying how and when to access current pertinent medical information;

- Establishing and implementing a comprehensive disposition plan that uses appropriate consultation resources, patient education regarding diagnosis, treatment plan, medications, and time and location specific disposition instructions;

- Re-evaluating patients undergoing emergency department observation (and monitoring) and using appropriate data and resources, and, determining the differential diagnosis, treatment plan, and disposition.

Additionally, EMPA residents/fellows must be able to competently perform all medical, diagnostic and surgical procedures considered essential for the area of practice. EMPA residents/fellows must demonstrate proficiency in:

- Performing diagnostic and therapeutic procedures and emergency stabilization;

- Managing critically-ill and injured patients who present to the emergency department, prioritizing critical initial stabilization action, mobilizing hospital support services in the resuscitation of critically-ill or injured patients and reassessing after a stabilizing intervention;

- Properly sequencing critical actions for patient care and generating a differential diagnosis for an undifferentiated patient;

- Mobilizing and managing necessary personnel and other hospital resources to meet critical needs of multiple patients;

- Performing invasive procedures, monitoring unstable patients, and directing major resuscitations of all types on all age groups;

- Must perform indicated procedures on all appropriate patients, including those who are uncooperative, at the extremes of age, hemodynamically unstable and who have multiple co-morbidities, poorly defined anatomy at high risk for pain or procedural complications, or require sedation, and take the steps to avoid potential complications; and recognize the outcome and/or complications resulting from the procedures; and

- Must demonstrate competence in performing the following key index procedures:

    1. Adult medical resuscitation;

    2. Adult trauma resuscitation;

    3. Anesthesia and pain management;

    4. EMPA residents/fellows must provide safe acute pain management, anesthesia, and procedural sedation to patients of all ages regardless of the clinical situation.

    5. Cardiac pacing;

    6. Chest tubes;

    7. Cricothyrotomy;

    8. Dislocation reduction;

9. Emergency department bedside ultrasound;

    a) EMPA residents/fellows must use ultrasound for the bedside diagnostic evaluation of emergency medical conditions and diagnoses, resuscitation of the acutely ill or injured patient, and procedural guidance;

10. Intubations;

    a) EMPA residents/fellows must perform airway management on all appropriate patients, including those who are uncooperative, at the extremes of age, hemodynamically unstable and who have multiple co-morbidities, poorly-defined anatomy, high risk for pain or procedural complications, or require sedation); take steps to avoid potential complications; and recognize the outcome and/or complications resulting from the procedures;

11. Lumbar puncture;

12. Pediatric medical resuscitation;

13. Pediatric trauma resuscitation;

14. Pericardiocentesis;

15. Procedural sedation;

16. Vaginal delivery;

17. Vascular access on all patient types; and,

18. Wound management on all patient types;

Medical Knowledge

EMPA residents/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. EMPA residents/fellows:

- Must demonstrate appropriate medical knowledge in the care of emergency medicine patients; and,

- Must demonstrate knowledge of the scientific method of problem solving, evidence-based decision-making, a commitment to lifelong learning, and an attitude of caring derived from humanistic and professional values.

Practice-based Learning and Improvement

EMPA residents/fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.

EMPA residents/fellows are expected to develop skills and habits to be able to meet the following goals:

- Identify strengths, deficiencies, and limits in one's knowledge and expertise;
- Set learning and improvement goals;
- Identify and perform appropriate learning activities;
- Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;
- Incorporate formative evaluation feedback into daily practice;
- Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems;
- Use information technology to optimize learning and improve patient care;
- Participate in the education of patients, families, students, EMPA residents/fellows and other health professionals;
- Apply knowledge of study design and statistical methods to critically appraise the medical literature; and

Interpersonal and Communication Skills

EMPA residents/fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

EMPA residents/fellows are expected to:

- Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds;
- Communicate effectively with physicians, other health professionals, and health related agencies;
- Work effectively as a member or leader of a health care team or other professional group;

- Act in a consultative role to other physicians and health professionals;
- Maintain comprehensive, timely, and legible medical records, if applicable;
    - Communicate sensitive issues or unexpected outcomes, including:
    - Diagnostic findings;
    - End-of-life issues and death;
    - Medical errors; and,
- Lead patient care teams, ensuring effective communication and mutual respect among team members.

Professionalism

EMPA residents/fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

EMPA residents/fellows are expected to demonstrate:

- Compassion, integrity, and respect for others;
- Responsiveness to patient needs that supersedes self-interest;
- Respect for patient privacy and autonomy;
- Accountability to patients, society and the profession; and,
- Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.

Systems-based Practice

EMPA residents/fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

EMPA residents/fellows are expected to:

- Work effectively in various health care delivery settings and systems relevant to their clinical specialty;
- Coordinate patient care within the health care system relevant to their clinical specialty;
- Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or

population-based care as appropriate;
- Advocate for quality patient care and optimal patient care systems;

- Work in interprofessional teams to enhance patient safety and improve patient care quality;

- Participate in identifying system errors and implementing potential systems solutions;
- Participate in performance improvement to optimize self-learning, emergency department function, and patient safety; and,

- Use technology to accomplish and document safe health care delivery.

Curriculum Organization and EMPA Resident/Fellow Experiences

The curriculum must include:

- Dedicated critical care experiences, including critical care of infants and children;

- 15 percent of all emergency department encounters, dedicated to the care of pediatric patients less than 18 years of age in the pediatric emergency department or other pediatric settings;

EMPA residents/fellows should treat a significant number of critically-ill or critically injured patients at participating sites.

- These patients should be those admitted to intensive care units, operative care, or the morgue following treatment in the emergency department.

Each EMPA resident/fellow must maintain, in an accurate and timely manner, a record of all major resuscitations and procedures performed throughout the entire educational program.

- The record must document each procedure type, adult or pediatric patient, and circumstances of each procedure (live or simulation).

- Only one EMAP resident/fellow must be credited with the direction of each resuscitation and the performance of each procedure.

EMPA residents/fellows should have experience in emergency medical services (EMS), emergency preparedness, and disaster management.

EMPA residents/fellows' Scholarly Activities

The curriculum must advance EMPA residents/fellows' knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care.

EMPA residents/fellows should participate in scholarly activity.

Evaluation

EMAP Resident/Fellow Evaluation

The EMPA program director must be included in the appointment of the Clinical Competency Committee. If one does not exist, the EMPA program director must appoint the members of the Clinical Competency Committee.
At a minimum the Clinical Competency Committee must be composed of three members of the program faculty. Others eligible for appointment to the committee include non-physician members of the health care team.

There must be a written description of the responsibilities of the Clinical Competency Committee.

The Clinical Competency Committee should:

- Review all EMPA resident/fellow evaluations semi-annually;
- Advise the EMPA program director regarding EMPA resident/fellow progress, including promotion, remediation, and dismissal.

Formative Evaluation

The faculty must evaluate EMPA resident/fellow performance in a timely manner during each rotation or similar educational assignment, and document this evaluation at completion of the assignment.

The EMPA postgraduate program must:

- Provide objective assessments of competence in patient care and procedural skills, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice based on the specialty-specific milestones;
- Use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff);
- Document progressive EMPA resident/fellow performance improvement appropriate to educational level; and,
- Provide each EMPA resident/fellow with documented semiannual evaluation of performance with feedback.

The EMPA program director must verify each EMPA resident's/fellows records of major resuscitations and procedures as part of the semiannual evaluation.
The evaluations of EMPA resident/fellow performance must be accessible for review by the resident/fellow, in accordance with institutional policy.

At least semi-annually, each EMPA resident's/fellow's competency in procedures and resuscitations must be formally evaluated by the EMPA program director.

A plan to remedy deficiencies must be in writing and on file.

Progress and improvement must be monitored at a minimum of every month if a EMPA resident/fellow has been identified as needing a remediation plan.

Summative Evaluation

The EMPA postgraduate milestones must be used as one of the tools to ensure EMPA residents/fellows are able to practice core professional activities without supervision upon completion of the EMPA postgraduate program.

The EMPA program director must provide a summative evaluation for each EMPA resident/fellow upon completion of the program.

This evaluation must:

- Become part of the EMPA resident's/fellow's permanent record maintained by the institution, and must be accessible for review by the resident in accordance with institutional policy;

- Document the EMPA resident's/fellow's performance during the final period of education; and,

- Verify that the EMPA resident/fellow has demonstrated sufficient competence to enter practice

Faculty Evaluation

At least annually, the EMPA postgraduate program must evaluate faculty performance as it relates to the educational program.

These evaluations should include a review of the faculty's clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities.

Faculty member evaluations must also include administrative and interpersonal skills, quality of feedback and mentoring for EMPA residents/fellows, and participation in and contributions to EMPA resident/fellow conferences.

This evaluation must include at least annual written confidential evaluations by the EMPA residents/fellows.

EMPA postgraduate Program Evaluation and Improvement

The EMPA program director must have inclusion in the appointment of the Program Evaluation

Committee (PEC). If a PEC does not exist, the EMPA program director must appoint one.

The Program Evaluation Committee:

- Must be composed of at least two program faculty members and should include at least one EMPA resident/fellow;
- Must have a written description of its responsibilities;
- Should participate actively in:
    - Planning, developing, implementing, and evaluating educational activities of the program;
    - Reviewing and making recommendations for revision of competency-based curriculum goals and objectives;
    - Reviewing the program annually using evaluations of faculty, EMPA residents/fellows, and others, as specified below.

The EMPA postgraduate program, through the PEC, must document formal, systematic evaluation of the curriculum at least annually, and is responsible for rendering a written and Annual Program Evaluation (APE).

EMPA residents/fellows and faculty must have the opportunity to evaluate the EMPA postgraduate program confidentially and in writing at least annually, and

The EMPA postgraduate program must use the results of EMPA residents/fellows' and faculty members' assessments of the program together with other program evaluation results to improve the program.

The PEC must prepare a written plan of action to document initiatives to improve performance in one or more of the areas listed in section, as well as delineate how they will be measured and monitored.

EMPA Resident/Fellow Duty Hours in the Learning and Working Environment

Professionalism, Personal Responsibility, and Patient Safety

EMPA postgraduate programs and sponsoring institutions must educate EMPA residents/fellows and faculty members concerning the professional responsibilities of physicians to appear for duty appropriately rested and fit to provide the services required by their patients.

The EMPA postgraduate program must be committed to and responsible for promoting patient safety and EMPA resident/fellow well-being in a supportive educational environment.

The EMPA program director must ensure that EMPA residents/fellows are integrated and actively participate in interdisciplinary clinical quality improvement and patient safety programs.

The learning objectives of the EMPA postgraduate program must:

- Be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events; and,

- Not be compromised by excessive reliance on EMPA residents/fellows to fulfill non-physician service obligations.

The EMPA program director and institution must ensure a culture of professionalism that supports patient safety and personal responsibility.

EMPA residents/fellows and faculty members must demonstrate an understanding and acceptance of their personal role in the following:

- Assurance of the safety and welfare of patients entrusted to their care;
- Provision of patient- and family-centered care;
- Assurance of their fitness for duty;
- Management of their time before, during, and after clinical assignments;
- Recognition of impairment, including illness and fatigue, in themselves and in their peers;
- Attention to lifelong learning;
- The monitoring of their patient care performance improvement indicators; and,
- Honest and accurate reporting of duty hours, patient outcomes, and clinical experience data.

All EMPA residents/fellows and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. They must recognize 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.

Transitions of Care

EMPA postgraduate programs must design clinical assignments to minimize the number of transitions in patient care.

Sponsoring institutions and programs must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care and patient safety.

EMPA postgraduate programs must ensure that EMPA residents/fellows are competent in communicating with team members in the hand-over process.

The sponsoring institution must ensure the availability of schedules that inform all members of the health care team of attending physicians and EMPA residents/fellows currently responsible for each patient's care.

Alertness Management/Fatigue Mitigation

The EMPA postgraduate program must:

- Educate all faculty members and EMPA residents/fellows to recognize the signs of fatigue and sleep deprivation;

- Educate all faculty members and EMPA residents/fellows in alertness management and fatigue mitigation processes; and,

- Adopt fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning, such as naps or back-up call schedules.

Each EMPA postgraduate program must have a process to ensure continuity of patient care in the event that a EMPA resident/fellow may be unable to perform his/her patient care duties.

The sponsoring institution must provide adequate sleep facilities and/or safe transportation options for EMPA residents/fellows who may be too fatigued to safely return home.

Supervision of EMPA residents/fellows

In the clinical learning environment, each patient must have an identifiable, appropriately credentialed and privileged attending physician (or licensed independent practitioner as approved by each Review Committee) who is ultimately responsible for that patient's care.

This information should be available to EMPA residents/fellows, faculty members, and patients.

EMPA residents/fellows and faculty members should inform patients of their respective roles in each patient's care.

The EMPA postgraduate program must demonstrate that the appropriate level of supervision is in place for all EMPA residents/fellows who care for patients.

Supervision may be exercised through a variety of methods. Some activities require the physical presence of the supervising faculty member. Portions of care provided by the EMPA resident/fellow can be adequately supervised by the immediate availability of the supervising faculty member or resident physician, either in the institution, or by means of telephonic and/or electronic modalities. In some circumstances, supervision may include post-hoc review of EMPA resident/fellow-delivered care with feedback as to the appropriateness of that care.

Levels of Supervision

To ensure oversight of EMPA resident/fellow supervision and graded authority and responsibility, the EMPA postgraduate program must use the following classification of supervision:

Direct Supervision – the supervising physician is physically present with the EMPA

resident/fellow and patient.

Indirect Supervision:

- With direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.

- With direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.

Oversight – the supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.

The EMPA program director and faculty members must assign the privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each EMPA resident/fellow.

The EMPA program director must evaluate each EMPA resident's/fellow's abilities based on specific criteria. When available, evaluation should be guided by specific national standards-based criteria.

Faculty members functioning, as supervising physicians should delegate portions of care to EMPA residents/fellows, based on the needs of the patient and the skills of the EMPA residents/fellows.

EMPA postgraduate programs must set guidelines for circumstances and events in which EMPA residents/fellows must communicate with appropriate supervising faculty members, such as the transfer of a patient to an intensive care unit, or end-of-life decisions.

Faculty supervision assignments should be of sufficient duration to assess the knowledge and skills of each EMPA resident/fellow and delegate to him/her the appropriate level of patient care authority and responsibility.

Clinical Responsibilities

The clinical responsibilities for each EMPA resident/fellow must be based on level of training, patient safety, EMPA resident/fellow education, severity and complexity of patient illness/condition and available support services.
When emergency medicine EMPA residents/fellows are on emergency medicine rotations, the following standards apply:

- While on duty in the emergency department, EMPA residents/fellows may not work longer than 12 continuous scheduled hours;

- There must be at least an equivalent period of continuous time off between scheduled work period;

- An EMPA resident/fellow. should not work more than 60 scheduled hours per week seeing patients in the emergency department, and no more than 72 duty hours per week.

- Duty hours comprise all clinical duty time and conferences, whether spent within or outside the EMPA postgraduate program, including all on-call hours.

- Emergency medicine EMPA residents/fellows must have one day (24-hour period) free per each seven-day period. This cannot be averaged over a four-week period.

Teamwork

EMPA residents/fellows must care for patients in an environment that maximizes effective 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.

Interprofessional teams must be used to ensure effective and efficient communication for appropriate patient care for emergency medicine department admissions, transfers, and discharges.

EMPA Resident/Fellow Duty Hours

Maximum Hours of Work per Week

Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities and all moonlighting.

Duty Hour Exceptions

Moonlighting must not interfere with the ability of the EMPA resident/fellow to achieve the goals and objectives of the educational program.

Mandatory Time Free of Duty

EMPA residents/fellows must be scheduled for a minimum of one day free of duty every week (when averaged over four weeks). At-home call cannot be assigned on these free days.

Maximum Duty Period Length

It is essential for patient safety and EMPA resident/fellow education that effective transitions in care occur. EMPA residents/fellows may be allowed to remain on-site in order to accomplish these tasks; however, this period of time must be no longer than an additional four hours.

In unusual circumstances, EMPA residents/fellows, on their own initiative, may remain beyond their scheduled period of duty to continue to provide care to a single patient. Justifications for such extensions of duty are limited to reasons of required continuity for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of a patient or family.

Minimum Time Off between Scheduled Duty Periods

EMPA residents/fellows should have 10 hours, but must have eight hours, free of duty between scheduled duty periods.

Maximum Frequency of In-House Night Float

EMPA residents/fellows must not be scheduled for more than six consecutive nights of night float.

Maximum In-House On-Call Frequency

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

At-Home Call

Time spent in the hospital by EMPA residents/fellows on at-home call must count towards the 80-hour maximum weekly hour limit. The frequency of at-home call is not subject to the every-third-night limitation, but must satisfy the requirement for one-day-in-seven free of duty, when averaged over four weeks.

At-home call must not be so frequent or taxing as to preclude rest or reasonable personal time for each EMPA resident/fellow.

SEMPA Model of the Clinical Practice of Emergency Medicine[2]

Prehospital care	Participate actively in prehospital care; provide direct patient care or on-line or off-line medical direction or interact with prehospital medical providers as permitted by the state;
Emergency stabilization	Conduct primary assessment and take appropriate steps to stabilize and treat patients.
Performance of focused history and physical examination	Communicate effectively to interpret and evaluate the patient's symptoms and history; identify pertinent risk factors in the patient's history; provide a focused evaluation; interpret the patient's appearance, vital signs and condition; recognize pertinent physical findings; perform techniques required for conducting the exam.
Modifying factors	Recognize age, gender, ethnicity, barriers to communication, socioeconomic status, underlying disease, and other factors that may affect patient management.
Professional and legal issues	Understand and apply principles of professionalism, ethics, and legal concepts pertinent to patient management.
Diagnostic studies	Select and perform the most appropriate diagnostic studies and interpret the results, e.g., electrocardiogram, emergency ultrasound, and laboratory tests, radiography.
Diagnosis	Develop a differential diagnosis and establish the most likely diagnoses in light of the history, physical, interventions, and test results.
Therapeutic interventions	Perform procedures and non-pharmacologic therapies, and counsel.
Pharmacotherapy	Select appropriate pharmacotherapy, recognize pharmacokinetic properties, and anticipate drug interactions and adverse effects.
Observation and reassessment	Evaluate and re-evaluate the effectiveness of a patient's treatment or therapy, including addressing complications and potential errors; monitor, observe, manage, and maintain the stability of one or more patients who are at different stages in their work-ups.
Consultation	Collaborate with physicians and other professionals to help guide optimal management of patients.
Disposition	Arrange for patient admission, discharge (including follow-up plan), observation, or transfer as appropriate, and communicate these arrangements effectively to patients, family, and involved healthcare team members.
Prevention and education	Apply epidemiologic information to patients at risk; conduct patient education; select appropriate disease and injury prevention techniques.
Documentation	Communicate patient care information in a concise manner that facilitates quality care and coding.
Multiple patient care	Prioritize and implement the evaluation and management of multiple patients in the emergency department, including handling interruptions and task-switching, in order to provide optimal patient care.
Team management	Coordinate, educate, or supervise members of the patient management team; utilize appropriate hospital resources; have familiarity

General Signs, Symptoms, and Presentations

General

- Altered mental status
- Anxiety
- Apnea
- Ataxia
- Back pain
- Bleeding
- Coma
- Confusion
- Crying/Fussiness
- Cyanosis
- Decreased level of consciousness
- Dehydration
- Dizziness
- Edema
- Failure to thrive
- Fatigue
- Feeding problems
- Fever
- Hypotension
- Jaundice
- Joint pain/Swelling
- Limp
- Lymphadenopathy
- Malaise
- Multiple trauma
- Needle stick
- Pain
- Paralysis
- Paresthesia/Dysesthesia
- Poisoning
- Pruritus
- Rash
- Shock
- SIDS (See 3.1)
- Sleeping problems
- Syncope
- Tremor
- Weakness
- Weight loss

Abdominal

- Abnormal vaginal bleeding
- Anuria
- Ascites
- Colic
- Constipation
- Cramps
- Diarrhea
- Dysmenorrhea
- Dysuria
- Hematemesis
- Hematochezia
- Hematuria
- Nausea/Vomiting
- Pain
- Pelvic pain
- Peritonitis
- Rectal bleeding
- Rectal pain
- Urinary incontinence
- Urinary retention

Chest

- Chest pain
- Cough
- Dyspnea
- Hemoptysis
- Hiccup
- Palpitations
- Shortness of breath
- Tachycardia
- Wheezing

Head and Neck

- Congestion
- Diplopia
- Dysphagia
- Eye pain
- Headache
- Loss of hearing
- Loss of vision
- Rhinorrhea
- Sore throat
- Stridor
- Tinnitus
- Vertigo

Abdominal and Gastrointestinal Disorders

Abdominal Wall

- Hernias

Esophagus

- Infectious disorders
  - Candida
- Inflammatory disorders
  - Esophagitis
  - Gastroesophageal reflux (GERD)
  - Toxic effects of caustic
    - Acid
    - Alkali
- Motor abnormalities
- Boerhaave's syndrome
- Diverticula
- Foreign body
- Hernias
- Mallory-Weiss syndrome
- Stricture and stenosis
- Tracheoesophageal fistula
- Varices

Liver

- Cirrhosis
  - Alcoholic
  - Biliary obstructive
  - Drug-induced
- Hepatorenal failure
- Infectious disorders
  - Abscess
  - Hepatitis
    - Acute
    - Chronic
- Tumors

Gall Bladder and Biliary Tract

- Cholangitis
- Cholecystitis
- Cholelithiasis/Choledocholithiasis
- Tumors

Pancreas

- Pancreatitis
- Tumors

Peritoneum

- Spontaneous bacterial peritonitis

Stomach

- Infectious disorders
- Inflammatory disorders
  - Gastritis
  - Peptic ulcer disease
  - Hemorrhage
- Perforation
- Structural disorders
  - Congenital hypertrophic pyloric stenosis
- Foreign body
- Tumors

Small Bowel

- Infectious disorders
- Inflammatory disorders
  - Regional enteritis/Crohn's disease/infectious colitis
- Motor abnormalities
  - Obstruction
  - Paralytic ileu
- Structural disorders
  - Aortoenteric fistula
  - Congenital anomalies
  - Intestinal malabsorption
  - Meckel's diverticulum
- Tumors
- Vascular insufficiency

Large Bowel

- Infectious disorders
  - Antibiotic-associated
  - Bacterial
  - Parasitic
  - Viral
- Inflammatory disorders
  - Appendicitis
  - Necrotizing enterocolitis (NEC)
  - Ulcerative colitis
- Motor abnormalities
  - Hirschsprung's disease
  - Irritable bowel
  - Obstruction
- Structural abnormalities
  - Congenital anomilies
  - Diverticula
  - Intussusceptiom
  - Volvulus
- Tumors

Abdominal and Gastrointestinal Disorders

Rectum and Anus

- Infectious disorders
  - Perianal/Anal abscess
  - Perirectal abscess
  - Pilonidal cyst and abscess
- Inflammatory disorders
  - Proctitis
- Structural disorders
  - Anal fissure
  - Anal fistula
  - Congenital anomalies
  - Foreign body
  - Hemorrhoids
  - Rectal prolapse
- Tumors

Spleen

- Splenic Rupture

Cardiovascular Disorders

Cardiopulmonary Arrest
- SIDS

Congenital Abnormalities of the Cardiovascular System

Disorders of Circulation
- Arterial
  - Aneurysm
  - Aortic dissection
  - Thromboembolism
- Venous
  - Thromboembolism

Disturbances of Cardiac Rhythm
- Cardiac dysrhythmias
  - Ventricular
  - Supraventricular
- Conduction disorders

Diseases of the Myocardium, Acquired
- Cardiac failure
  - Cor pulmonale
  - High output
  - Low output
- Cardiomyopathy
  - Hypertrophic
- Congestive heart failure
- Coronary syndromes
  - Ischemic heart disease
  - Myocardial infarction
  - Myocarditis
- Ventricular aneurysm

Diseases of the Pericardium
- Pericardial tamponade
- Pericarditis

Endocarditis

Hypertension

Tumors

Valvular Disorders

Cutaneous Disorders

Cancers of the Skin
- Basal cell
- Kaposi's sarcoma
- Melanoma
- Squamous cell

Decubitus Ulcer

Dermatitis
- Atopic
- Contact
- Eczema
- Psoriasis
- Seborrhea

Infections
- Bacterial
  - Abscess
  - Cellulitis
  - Erysipelas
  - Impetigo
  - Necrotizing infection
- Fungal
  - Candida
  - Tinea
- Parasitic
  - Pediculosis infestation
  - Scabies
- Viral
  - Aphthous ulcers
  - Erythema infectiosum
  - Herpes simplex
  - Herpes zoster
  - Human papillomavirus (HPV)
  - Molluscum contagiosum
  - Warts

Maculopapular Lesions
- Erythema multiforme
- Erythema nodosum
- Henoch-Schönlein purpura (HSP)
- Pityriasis rosea
- Purpura
- Urticaria

Papular/Nodular Lesions
- Hemangioma/Lymphangioma
- Lipoma
- Sebaceous cyst

Vesicular/Bullous Lesions
- Pemphigus
- Staphylococcal scalded skin syndrome
- Stevens-Johnson syndrome
- Toxic epidermal necrolysis
- Bullous pemphigoid

Endocrine, Metabolic, and Nutritional Disorders

Acid-base Disturbances
- Metabolic or respiratory
  - Acidosis
  - Alkalosis
- Mixed acid-base balance disorder

Adrenal Disease
- Corticoadrenal insufficiency
- Cushing's syndrome

Fluid and Electrolyte Disturbances
- Calcium metabolism
- Fluid overload/Volume depletion
- Potassium metabolism
- Sodium metabolism
- Magnesium metabolism
- Phosphorus metabolism

Glucose Metabolism
- Diabetes mellitus
  - Type I
  - Type II
- Complications in glucose metabolism
  - Diabetic ketoacidosis(DKA)
  - Hyperglycemia
  - Hyperosmolar coma
  - Hypoglycemia
  - Systemic

Nutritional Disorders
- Vitamin deficiencies
- Wernicke-Korsakoff syndrome

Parathyroid Disease

Pituitary Disorders
- Panhypopituitarism

Thyroid Disorders
- Hyperthyroidism
- Hypothyroidism
- Thyroiditis

Tumors of Endocrine Glands
- Adrenal
- Pituitary
- Thyroid

Environmental disorders

Submersion Incidents

- Cold water immersion
- Near drowning

Temperature-related Illness

- Heat
  - Heat exhaustion
  - Heat stroke
- Cold
  - Frostbite
  - Hypothermia

Head, Ear, Eye, Nose, Throat Disorders

Ear

- Foreign body
  - Impacted cerumen
- Labyrinthitis
- Mastoiditis
- Ménière's disease
- Otitis externa
  - Infective
    - Malignant
- Otitis media
- Perforated tympanic membrane

Eye

- External eye
  - Blepharitis
  - Burn confined to eye and adnexa
  - Conjunctivitis
  - Corneal abrasions
  - Dacryocystitis
  - Disorders of lacrimal system
  - Foreign body
  - Inflammation of the eyelids
    - Chalazion
    - Hordeolum
  - Keratitis
  - Chemical trauma – acid/base
  - Anterior pole
    - Glaucoma
    - Hyphema
    - Iritis
    - Hypopyon
  - Posterior pole
    - Choroiditis/Chorioretinitis
    - Optic neuritis
    - Papilledema
    - Retinal detachments and defects
  - Retinal vascular occlusion

Eye

- Orbit
  - Cellulitis
    - Preseptal
    - Postseptal
  - Purulent endophthalmitis

Cavernous Sinus Thrombosis

Nose

- Epistaxis
- Foreign body
- Rhinitis
- Sinusitis

Oropharynx/Throat

- Dentalgia
- Diseases of the oral soft tissue
- Herpetiform eruptions
  - Ludwig's angina
  - Stomatitis
- Diseases of the salivary glands
  - Sialolithiasis
  - Suppurative parotitis
- Foreign body
- Gingival and periodontal disorders
  - Gingivostomatitis
- Larynx/Trachea
  - Epiglottitis
  - Laryngitis
  - Tracheitis
- Oral candidiasis
- Periapical abscess
- Peritonsillar abscess
- Pharyngitis/Tonsillitis
- Retropharyngeal abscess
- Temporomandibular joint disorders
- Lemierres Syndrome

Tumors

Hematologic Disorders

Blood Transfusion
- Complications

Hemostatic Disorders
- Coagulation defects
  - Acquired
  - Hemophilias
- Disseminated intravascular coagulation
- Platelet disorders
  - Thrombocytopenia

Lymphomas

Pancytopenia

Red Blood Cell Disorders
- Anemias
  - Aplastic
  - Hemoglobinopathies
    - Sickle cell disease
  - Hemolytic
  - Hypochromic
    - Iron deficiency
  - Megaloblastic
- Polycythemia
- Methemoglobinemia

White Blood Cell Disorders
- Leukemia
- Multiple myeloma
- Leukopenia

Immune System Disorders

Collagen Vascular Disease

- Raynaud's disease
- Reiter's syndrome
- Rheumatoid arthritis
- Scleroderma
- Systemic lupus erythematosus
- Vasculitis

Hypersensitivity

- Allergic reaction
- Anaphylaxis
- Angioedema
- Drug allergies

Transplant-related Problem

- Immunosuppression
- Rejection

Immune Complex Disorders

- Kawasaki syndrome
- Rheumatic fever
- Sarcoidosis
- Post-streptococcal glomerulonephritis

Systemic Infectious Disorders

Bacterial

- Bacterial food poisoning
- Botulism
- Chlamydia
- Gonococcus
- Meningococcus
- Mycobacterium
  - Atypical mycobacteria
  - Tuberculosis
- Other bacterial diseases
  - Gas gangrene
- Sepsis/Bacteremia
  - Shock
  - Systemic inflammatory response syndrome (SIRS)
  - Toxic shock syndrome
- Spirochetes
  - Syphilis
  - Tetanus
- Tularemia

Fungal Infections

Protozoan/Parasites

- Malaria
- Toxoplasmosis

Tick-Borne

- Ehrlichiosis
- Lyme disease
- Rocky Mountain spotted fever

Viral

- Infectious mononucleosis
- Influenza/Parainfluenza
- Hantavirus
- Herpes simplex
- Herpes zoster/Varicella
- HIV/AIDS
- Rabies
- Roseola
- Rubella

Emerging Infections, Pandemics, and Drug Resistance

Musculoskeletal Disorders (Nontraumatic)

Bony Abnormalities

- Avascular necrosis of hip
- Osteomyelitis
- Tumors
  - enchondroma

Disorders of the Spine

- Disc disorders
- Inflammatory spondylopathies
- Low back pain
  - Cauda equina syndrome
  - Sacroiliitis
  - Sprains/Strains

Joint Abnormalities

- Arthritis
  - Septic
  - Crystal arthropathies
  - Rheumatoid
  - Juvenile
  - Osteoarthrosis
- Congenital dislocation of the hip
- Slipped capital femoral epiphysi

Muscle Abnormalities

- Myalgia/Myositis
- Rhabdomyolysis

Overuse Syndromes

- Bursitis
- Muscle strains
- Peripheral nerve syndrome
  - Carpal tunnel syndrome
- Tendonitis

Soft Tissue Infections

- Fasciitis
- Felon
- Gangrene
- Paronychia
- Synovitis/Tenosynovitis
- Herpetic Whitlow

Nervous System Disorders

Cranial Nerve Disorders
- Idiopathic facial nerve paralysis (Bell's palsy)
- Trigeminal neuralgia

Demyelinating Disorders
- Multiple sclerosis

Headache
- Muscle contraction
- Vascular

Hydrocephalus
- Normal pressure
- VP shunt

Infections/Inflammatory Disorders
- Encephalitis
- Intracranial and intraspinal abscess
- Meningitis
  - Bacterial
  - Viral
- Myelitis
- Neuralgia/Neuritis

Movement Disorders
- Dystonic reaction

Neuromuscular Disorders
- Guillain-Barré syndrome
- Myasthenia gravis
- Peripheral neuropathy

Other Conditions of the Brain
- Dementia
- Parkinson's disease
- Pseudotumor cerebri

Seizure Disorders
- Febrile
- Neonatal
- Status epilepticus

Spinal Cord Compression
- All Cord syndromes

Stroke (Cerebral Vascular Events)
- Hemorrhagic
  - Intracerebral
  - Subarachnoid
- Ischemic
  - Embolic
  - Thrombotic

Transient Cerebral Ischemia

Tumors

Obstetrics and Gynecology

Female Genital Tract

- Cervix
  - Cervicitis and endocervicitis
  - Tumors
- Infectious disorders
  - Pelvic inflammatory disease
  - Fitz-Hugh-Curtis syndrome
  - Tuboovarian abscess
- Lesions
  - Herpes simplex
  - Human papillomavirus (HPV)
- Ovary
  - Cyst
  - Torsion
  - Tumors
- Uterus
  - Dysfunctional bleeding
  - Endometriosis
  - Prolapse
  - Tumors
  - Gestational trophoblastic disease
  - Leiomyoma
- Vagina and vulva
  - Bartholin's abscess
  - Foreign body
  - Vaginitis/Vulvovaginitis
  - Toxic shock

Normal Pregnancy

Complications of Pregnancy

- Abortion
- Ectopic pregnancy
- Hemolysis, elevated liver enzymes, low platelets (HELLP) syndrome
- Hemorrhage, antepartum
  - Abruptio placentae
  - Placenta previa
- Hyperemesis gravidarum
- Pregnancy-induced hypertension
  - Eclampsia
  - Preeclampsia
- Infections
- Rh isoimmunization
- First trimester bleeding

Psychobehavioral Disorders

Mood Disorders and Thought Disorders

- Acute psychosis
- Bipolar disorder
- Depression
  - Suicidal risk
- Grief reaction
- Schizophrenia

Neurotic Disorders

- Anxiety/Panic
- Obsessive compulsive

Organic Psychoses

- Chronic organic psychotic conditions
  - Alcoholic psychoses
  - Drug psychoses
- Delirium
- Dementia
- Intoxication and/or withdrawal
  - Alcohol
  - Hallucinogens
  - Opioids
  - Phencyclidine
  - Sedatives/Hypnotics/Anxiolytics
  - Sympathomimetics and cocaine

Patterns of Violence/Abuse/Neglect

- Interpersonal violence
- Child, intimate partner, elder
- Homicidal Risk
- Sexual assault
- Staff/Patient safety

Personality Disorders

Psychosomatic Disorders

- Hypochondriasis
- Hysteria/Conversion

Renal and Urogenital Disorders

Acute and Chronic Renal Failure

Complications of Renal Dialysis

Glomerular Disorders

- Glomerulonephritis
- Nephrotic syndrome

Infection

- Cystitis
- Pyelonephritis
- Urinary tract infection (UTI)

Male Genital Tract

- Genital lesions
- Hernias
- Inflammation/Infection
  - Balanitis/Balanoposthitis
  - Epididymitis/Orchitis
    - Gangrene of the scrotum (Fournier's gangrene)
  - Prostatitis
    - Urethritis
  - Structural
    - Paraphimosis/Phimosis
    - Priapism
    - Prostatic hypertrophy (BPH)
- Torsion of testis
  - Testicular masses
- Tumors
  - Prostate
  - Testis

Nephritis

- Hemolytic uremic syndrome

Structural Disorders

- Calculus of urinary tract
- Obstructive uropathy
- Polycystic kidney disease

Tumors

Thoracic/Respiratory Disorders

Acute Upper Airway Disorders
- Infections
  - Croup
  - Epiglottitis
  - Pertussis
  - Upper respiratory infection
- Obstruction
- Tracheostomy/Complications

Disorders of Pleura, Mediastinum, and Chest Wall
- Costochondritis
- Mediastinitis
- Pleural effusion
- Pleuritis
- Pneumomediastinum
- Pneumothorax
  - Simple
  - Tension
- Empyema

Noncardiogenic Pulmonary Edema

Obstructive/Restrictive Lung Disease
- Asthma/Reactive airway disease
- Bronchitis and bronchiolitis
- Bronchopulmonary dysplasia
- Chronic obstructive pulmonary disease
- Cystic fibrosis
- Environmental/Industrial exposure
- Foreign body

Physical and Chemical Irritants/Insults
- Pneumoconiosis
- Toxic effects of gases, fumes, vapors

Pulmonary Embolism/Infarct
- Septic embobi
- Venous thromboembolism

Pulmonary Infections
- Lung abscess
- Pneumonia
  - Aspiration
  - Community-acquired
  - Health care-associated
- Pulmonary tuberculosis

Tumors
- Breast
- Pulmonary

Pulmonary Hypertension

Toxicologic Disorders

Drug and Chemical Classes

- Analgesics
- Acetaminophen
- Nonsteroidal anti-inflammatories (NSAIDS)
- Opiates and related narcotics
- Salicylates
- Alcohol
  - Ethanol
  - Glycol
  - Isopropyl
  - Methanol
- Anesthetics
- Anticholinergics/Cholinergics
- Anticoagulants
- Anticonvulsants
- Carbon monoxide
- Cardiovascular drugs
  - Antiarrhythmics
  - Digitalis
  - Antihypertensives
  - Beta blockers
  - Calcium channel blockers
- Caustic agents
  - Acid
  - Alkali
- Cocaine
- Cyanides, hydrogen sulfide
- Hallucinogens
- Herbicides, insecticides, and rodenticides
- Hydrocarbons
- Hypoglycemics/Insulin
- Iron
- Organophosphates
- Sedatives/Hypnotics
- Stimulants/Sympathomimetics
- Lithium

Traumatic Disorders

Abdominal trauma
- Diaphragm
- Hollow viscus
- Penetrating
- Retroperitoneum
- Solid organ
- Vascular

Chest trauma
- Aortic dissection/Disruption
- Contusion
  - Cardiac
  - Pulmonary
- Fracture
  - Clavicle
  - Ribs/Flail chest
  - Sternum
- Hemothorax
- Penetrating chest trauma
- Pericardial tamponade
- Pneumothorax
  - Simple
  - Tension

Cutaneous injuries
- Avulsions
- Bite wounds
- Burns
  - Electrical
  - Chemical
  - Thermal
- Lacerations
- Puncture wounds

Facial fractures
- Dental
- Le Fort
- Mandibular
- Orbital

Genitourinary trauma
- Bladder
- External genitalia
- Renal
- Ureteral

Head trauma
- Intracranial injury
- Scalp lacerations/Avulsions
- Skull fractures

Injuries of the spine
- Dislocations/Subluxations
- Fractures
- Sprains/Strains
- Lower extremity bony trauma
  - Dislocations/Subluxations
  - Fractures (open and closed)
    - Lis Franc fx

Neck Trauma
- Laryngotracheal injuries
- Penetrating neck trauma
- Vascular Injuries
  - Carotid Artery
  - Jugular Vein

Ophthalmologic trauma
- Corneal abrasions/Lacerations
- Corneal burns
  - Acid
  - Alkali
  - Ultraviolet
- Eyelid lacerations
- Foreign body
- Hyphema
- Lacrimal duct injuries
- Penetrating globe injuries
- Retinal detachments
- Traumatic iritis
- Retrobulbar hematoma

Otologic trauma
- Hematoma
- Perforated tympanic membrane

Pediatric fractures
- Epiphyseal
- Greenstick
- Torus
- Pelvic fracture

Soft-tissue extremity injuries
- Amputations/Replantation
- Compartment syndromes
- High-pressure injection

Traumatic Disorders

Injuries to joints

- Knee
- Penetrating
- Penetrating soft-tissue
  - Periarticular
- Sprains/strains

Tendon injuries

- Lacerations/Transections
- Ruptures
- Achilles tendon
- Patellar tendon
- Vascular injuries

Spinal cord and nervous system trauma

- Cauda equina syndrome
- Injury to nerve roots
- Peripheral nerve injury
- Spinal Cord Injury
  - without radiologicabnormality
    - (SCIWORA)

Upper extremity bony trauma

- Dislocations/Subluxations
- Fractures (open and closed)

Multi-system Trauma

Procedures and Skills Integral to the Practice of Emergency Medicine

Airway Techniques
- Intubation
- Airway adjuncts
- Mechanical ventilation
- Non-invasive ventilatory management
- Ventilatory monitoring
- Cricothyrotomy

Resuscitation
- Cardiopulmonary resuscitation
- Pediatric resuscitation
- Post-resuscitative care
- Rapid Sequence Intubation
- Blood, fluid, and component therapy
- Arterial catheter insertion
- Central venous access
- Intraosseous infusion
- Defibrillation

Anesthesia and Acute Pain Management
- Local
- Regional nerve block
- Procedural sedation and analgesia

Diagnostic and Therapeutic Procedures
- Abdominal and Gastrointestinal
  - Anoscopy
  - Gastric lavage
  - Gastrostomy tube replacement
  - Nasogastric tube
  - Paracentesis
- Cardiovascular and Thoracic
  - Cardiac pacing
  - Cardioversion
  - ECG interpretation
  - Pericardiocentesis
  - Thoracentesis
  - Thoracostomy
- Cutaneous
  - Escharotomy
  - Incision and drainage
  - Trephination, nails
  - Wound closure techniques
  - Wound management
- Head, Ear, Eye, Nose, and Throat
  - Control of epistaxis
  - Drainage of peritonsillar abscess
  - Laryngoscopy
  - Lateral canthotomy
  - Slit lamp examination
  - Tonometry
  - Tooth stabilization
- Systemic Infectious
  - Personal protection (equipment and techniques)
  - Universal precautions and exposure management
- Musculoskeletal
  - Arthrocentesis
  - Compartment pressure measurement
  - Fracture/dislocation immobilization techniques
  - Fracture/dislocation reduction techniques
  - Spine immobilization techniques
  - Nervous System
    - Lumbar puncture
  - Obstetrics and Gynecology
    - Delivery of newborn
  - Psychobehavioral
    - Psychiatric screening examination
    - Violent patient management/restraint
- Renal and Urogenital
  - Bladder catheterization
    - Urethral Catheter
    - Supropubic Catheter
    - Cystourethrogram
  - Testicular detorsion
- Toxicologic
  - Decontamination

Other Diagnostic and Therapeutic Procedures
- Foreign body removal
- Forensic examination
- Ultrasound
  - Diagnostic
  - Procedural

Other Core Competencies of the Practice of Emergency Medicine

Interpersonal and Communication Skills

- Interpersonal Skills
  - Inter-departmental and medical staff relations
  - Intra-departmental relations, teamwork, and collaboration skills
  - Patient and family experience of care
- Communication Skills
- Complaint management and service recovery
- Conflict management/resolution
- Crisis resource management
- Delivering bad news
- Multicultural approach to the ED patient
- Negotiation skills

Practice-based Learning and Improvement

- Performance improvement and lifelong learning
  - Evidence-based medicine
  - Interpretation of medical literature
  - Knowledge translation
  - Patient safety and medical errors
  - Performance evaluation and feedback
  - Research
- Practice guidelines
- Education
  - Patient and family
  - Provider

Professionalism

- Advocacy
  - Patient
  - Professional
- Ethical Principles
  - Conflicts of interest
  - Diversity awareness
  - Electronic communications/Social media
  - Medical ethics
- Well-being
  - Fatigue and impairment
  - Time management/Organizational skills
  - Work/Life balance
  - Work dysphoria (burn-out)

Systems-based Practice

- Clinical Informatics
  - Computerized physician order entry
  - Clinical decision support
  - Electronic health record
  - Health information integration
- ED Administration
  - Patient flow and throughput
    - Patient triage and classification
    - Hospital crowding and diversion
    - Observation and rapid treatment units
    - Reimbursement issues
- ED Operations
  - Policies and procedures
  - ED data acquisition and operational metrics
  - Safety, security, and violence in the ED
- Health Care Coordination
  - End-of-life and palliative care
  - Long-term care
  - Outpatient services
- Regulatory/Legal
  - Accreditation
  - Compliance and reporting requirements
  - Confidentiality and HIPAA
  - Consent, capacity, and refusal of care
  - Emergency Medical Treatment and Active Labor Act (EMTALA)
  - External quality metrics
- Risk Management
  - Liability and litigation
  - Professional liability insurance
  - Risk mitigation
- Disaster Management
- Evolving Trends in Health Care Delivery

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