

Surgical Practice of Telemedicine

OVERVIEW

Guidelines established for post residency surgical education in the Framework for Post-Residency Surgical Education & Training. A format provided by this document for obtaining appropriate training, attaining competence, and gaining privileges for advanced surgical procedures which is not learned during a formal residency program. For the Surgical Practice of Telemedicine, It is upon the foundation laid by that document that this Guideline has been constructed. The two instruments are designed to be complementary and not exclusionary; both are intended to promote high quality patient care.

From, 30 years or more Telemedicine has been practiced for. Recent technological advances, however, have expanded the scope of medical interaction that may be achieved. Whereas consultative services, examination of still documents (photos, x-rays, slides, or ECGs), and interactive voice sessions previously defined the state of the art, the telemedical event may now involve "live" manipulations of patients and/or tissues "at a distance". In fact, there are now many levels of health care-related interaction that may take place in the telecommunications medium: physician-to-physician consultation, physician-to student (physician, nurse, other care giver) teaching, physician-to-patient examination and consultation, and physician-to-patient treatment. Guidelines provided by this document for establishing policies and procedures to promote safe, high quality application of telemedicine technology to the practice of surgery.

The rapid development of telemedicine will continue to be driven by the implementation of enhanced high speed, broadband communications (Internet2), immersive feedback and nanotechnology. Anticipation for this document to be a vibrant resource for those interested in the field and to evolve as the state of the art evolves.

Both surgeons and telemedicine facilities involved in the practice of intrastate, interstate, international and/or transcontinental telemedicine are responsible for compliance with appropriate state and federal and global licensing requirements. Complex issues relating to patient privacy, medical licensure and malpractice liability continue to evolve. Verification of Current expert opinion is essential.

EXISTING DEFINITIONS and CONCEPTS

Skills:

Practical ability and dexterity based on talent and knowledge usually derived from a period of education and training.

Skills Laboratory:

A facility, in which a practicing physician acquires, refines or improves his/her ability to perform specific medical/surgical tasks or procedures. Skills are the building blocks upon which procedures are constructed. To perform a procedure, a skills laboratory may teach one skill or the entire set of skills. A skills laboratory is usually a continuing resource that can be revisited.

SECTION3. NEW DEFINITIONS and CONCEPTS

The following definitions and concepts regarding surgical practice and telemedicine have been formulated after a review of the literature on telemedicine, with intent to provide continuity for Post-Residency Surgical Education & Training document.

The purpose here is to develop a framework for understanding and categorizing basic telemedicine concepts and activities, and to establish guidelines for the safe surgical practice of telemedicine.

TELEMEDICINE***Definition:***

The practice of medicine and/or teaching of the medical art, without direct physical physician-patient or physician-student interaction, via an interactive audio-video communication system employing tele-electronic devices

Appropriate Use:

Some applications of consultation, diagnosis and teaching with the potential for treatment as defined below.

REMOTE SITE (SITE OF THE PRIMARY ACTIVITY)***Definition:***

The site or location of the primary activity, this location may be the originating site of a conference, the laboratory where a new technique, instrument, or technology is being demonstrated, the facility where a patient is being evaluated or treated, or the operating theater where a surgical procedure is being performed.

CENTRAL LOCATION (CENTRAL SITE)***Definition:***

The site of the teacher, demonstrator, evaluator, student, or clinician which is not immediately adjacent or proximate to the primary site of the activity or procedure. The central or offsite location may be as little as 100 feet or as distant as several thousand miles from the primary site of a conference or patient interaction. The basic assumption here is that without the telecommunications interface the individual at the central site is not able to physically intervene immediately in the primary procedure.

Comments:

The concept of interaction at a distance implies that some form of telecommunications medium is employed. The participants, facilities, and telecommunication service vendors involved in the event should coordinate their efforts so that the telecommunications interface is suitable for the planned activity.

TELECONFERENCING

Definition:

A real time and live interactive program in which one set of participants are at one or more locations and the other set of participants are at another location. The teleconference allows for interaction, including audio and/or video, and possibly other modalities, between at least two sites.

Appropriate Use:

Teaching (e.g. didactic lectures, demonstration of surgical or other medical procedures, and demonstration of uses of equipment), consultation, diagnosis, or deliberations

Comments:

In the instruction of new procedures and in the development of competency, Teleconferencing may be a useful adjunct to hands-on experience but is not a substitute for on-site supervised hands-on training.

TELEPROCTOR

Definition:

An expert surgeon, at a central site, who undertakes to impart his/her clinical knowledge and skills in a defined setting to a student, The teleproctor must be appropriately privileged, skilled, and experienced in the procedure(s) and/or technique(s) in question. In order to serve as a teleproctor in a specific procedure or technique, the surgeon (teleproctor) must be a

recognized authority (e.g. publications, presentations, extensive clinical experience) in the particular field of expertise. The teleproctor, by definition, does not have the ability to physically intervene on-site in the primary activity without the telecommunications interface.

TELEPROCTORING

Definition:

A real time and live interactive teaching of techniques or procedures by a teleproctor to a student, the teleproctor is in one location and the student is in another. The teleproctor must have the ability to see the performance of the procedure or technique being executed by the student in real time. The teleproctor and the student must have the ability to verbally communicate during the session. Implicit in the definition of teleproctoring is that the teleproctor does not have the ability to physically intervene on-site and can therefore not assume primary patient care responsibility.

Appropriate Use:

- Demonstration and teaching techniques or procedures on patients as an adjunct teacher when a qualified preceptor is on-site with the student.
- Demonstration and/or teaching technique or procedures using inanimate trainers.
- Demonstration and/or teaching techniques or procedures using animate ex vivo models.

Comments:

Teleproctoring is not an acceptable substitute for an on-site preceptorship but may be a useful adjunct.

TELEMONITOR / TELEPROCTOR

Definition:

A person who supervises or monitors students from a central location, to define, a teleproctor differs from a consultant or a preceptor in that (s) he functions as an observer and evaluator, does not directly participate in patient care, and receives no fees from the patient. The teleproctor acts as an agent of the privileging committee of the sponsoring hospital. The teleproctor, by definition, cannot assume primary patient care responsibility, does not have the ability to physically intervene on- site without the telecommunications interface.

A teleproctor must be a physician/surgeon who has recognized proficiency or documented expertise in the specialty area being monitored. The teleproctor should be free of perceived or

actual conflicts of interest, which might create a bias against, or in favor of, the applicant. A teleproctor may work at the same or at another institution.

TELEPROCTORING

Definition:

A real time and live interactive monitoring (evaluation) of technique(s) or procedure(s) of an applicant seeking privileges, or a surgeon seeking to certify or document his competence in a specific technique or procedure(s), the teleproctor is in one location and the surgeon to be evaluated is in another. The teleproctor must have the ability to see the performance of the procedure or technique being executed by the student in real time. The teleproctor and the applicant must have the ability to communicate verbally during the session.

Appropriate Use:

Teleproctoring may be used as an adjunct to proctoring in the privileging process but should not alone be a substitute for proctoring to determine competency. Integration of teleproctoring into the proctoring process may reduce, but not eliminate, the number of on-site proctored cases required.

Comments:

The term-teleproctoring is sometimes used to define remote patient surveillance. Remote patient surveillance is an activity that is included in the concept of tele-management.

Teleproctoring assumes that the ability of the teleproctor to physically intervene at the site of the primary procedure is not possible without the telecommunications interface.

TELECONSULTANT

Definition:

A physician at a central location who evaluates a patient, and/or patient data, and who presents an opinion of his or her findings and/or recommendations for further evaluation or treatment to the patient or other health care provider at the remote site, using a telecommunications interface.

TELECONSULTING (REMOTE PATIENT EVALUATION & CONSULTATION)

Definition:

Evaluation of patient(s), and/or patient data, and consultation regarding patient management, from a distant site, using a telecommunications interface, the teleconsultant, by definition, does not have the ability to physically interact with the patient, except through the telecommunications interface.

Appropriate Use:

- Intra-operative consultations
- Public health, preventive medicine, and patient education
- Routine consultations and second opinions based on history, physical findings, and available test data
- Initial urgent evaluation of patients, triage decisions, and pre-transfer arrangements for patients in an urgent/emergency situation
- Supervision and consultation for primary care encounters in sites where an equivalently qualified physician/surgeon is not available

Comments:

In telemedicine applications, Tele-consulting has heretofore represented the pinnacle of achievement. Its use in the fields of radiology and pathology has stimulated the development of specific guidelines regarding the minimum and suggested interface requirements for reliable interpretation of transmitted patient information. However, tele-consulting with tele-surgical presence should include high speed, uninterrupted transmission, similarity of operating room environments with necessary instruments previously agreed upon and an absence of language barriers between the consultant and the operating team. Utilizing these criteria expert telesurgical consultation has been provided for even complex surgical problems.

Remote patient evaluation assumes that a remote health care provider, who is familiar with, and capable of using the telecommunications interface equipment, is present with the patient or that the patient has been instructed in the mechanics of, and is capable of applying the diagnostic and telecommunications instrumentation necessary to provide clinical information to the tele-consultant.

TELEMANAGEMENT (REMOTE PATIENT MANAGEMENT)

Definition:

Remote evaluation and non-operative treatment of a patient, using a telecommunications interface.

Appropriate Use:

- Public health, preventive medicine, and patient education
- Medical and surgical evaluation, follow-up, and medication checks
- Management of chronic diseases and conditions requiring a specialist not available locally

Comments:

Tele-management of a patient assumes that the central physician has evaluated the patient, and/or patient data, concurrently with the management activity.

Because it involves a level of physician-patient interaction comparable to, or more intense than tele-consulting, tele-management requires that a remote health care provider, who is familiar with, and capable of using the telecommunications interface equipment, is present with the patient, or that the patient has been instructed in the mechanics of, and is capable of applying the diagnostic and telecommunications instrumentation necessary to provide clinical information to the central site physician.

TELESURGERY (REMOTE SURGERY)

Definition:

Surgery, procedure or intervention performed on an inanimate trainer, animate model, or patient, in which the surgeon or operator is not at the immediate site of the model or patient being operated upon. Visualization and manipulation of the tissues and equipment is performed using tele-electronic devices.

Appropriate Use:

- Demonstration and/or teaching techniques or procedures using animate model for purposes of testing technology.
- Demonstration and/or teaching technique or procedures using inanimate trainers as the objects of the procedure.
- Demonstration and teaching techniques or procedures on patients under strict guidance of an IRB and only when a qualified surgeon is present to intervene in a timely fashion if technical difficulties arise.

Comments:

Remote surgery remains investigational and should be performed with IRB approval and only by surgeons familiar with the technology. The introduction of tele-robotic surgery, coupled with improvements in bandwidth and reduction in time has allowed for the remote safe completion of common surgical procedures.

Strong recommendations to surgeon to conduct the clinical use of tele-surgery and tele-robotics under IRB auspices, Quality assurance and outcomes data should be routinely collected. Surgeons utilizing tele-robotics should undergo appropriate training and be aware of the anesthetic implications of this technology. All involved participants, facilities, telecommunication and equipment vendors should coordinate their efforts to provide secure visual fidelity and smooth telecommunications interfaces. The development of global standards should be actively pursued.

Simple de-identification such as removal of the patient's name or avoidance of facial photography, which was sufficient in the past, does not meet all of the requirements today. "Live surgery" by its very nature adds identifiers in two categories that need to be considered under the law. They are "dates of service" which is the day of the transmission and geographic location (less than 20,000 persons) of the procedure, i.e. the hospital. Since these are unavoidable, an authorization from the patient must be obtained. This is the patient's physician responsibility prior to disclosing PHI outside of the covered entity where the procedure is taking place.

Indications of the authorization should include:

- 1) It is very unlikely that the patient could be identified individually (unless the patient authorizes the disclosure of his or her name or allows the use of facial photography).
- 2) The nature of the PHI to be disclosed (in most cases this is date of surgery and location of care)
- 3) The nature of those persons who will be in receipt of PHI and the fact that federal law does not require those same persons to keep the PHI confidential
- 4) The expiration date of the authorization.