

Orthopedic Anesthesia Fellowship,
Department of Anesthesiology, UPMC, Pittsburgh, PA
Director: Jacques E Chelly, MD, PhD, MBA

Mission Statement:

The purpose of this fellowship program is to provide an advanced training to anesthesiology resident in orthopedic anesthesia, a subspecialty of anesthesia. This clinical training will include clinical training in orthopedic anesthesia, acute pain and rehabilitation, along with research activities, and educational curricula.

Program Requirements for Fellowship training in Regional Anesthesia:

- Outline:
- I. Scope and Duration of Training
 - II. Institutional Organization
 - III. Program Director and Faculty
 - IV. Facilities and Resources
 - V. The Educational Program
 - VI. Scholarly Activity
 - VII. Consultant Skills
 - VIII. Evaluation
 - IX. Board Certification

I) Scope and Duration of Training:

- A) Scope of Training: Orthopedic anesthesia, a sub-specialty of anesthesia, focused on the perioperative management of patients undergoing in-patient as well as outpatient orthopedic surgery. Fellowship training will provide advance training in the practice and theory of orthopedic anesthesia, acute pain and rehabilitation.
- B) Duration of Training: The time required for this sub-specialty training shall be twelve months. There should be enough flexibility to allow the Program Director to tailor the program to meet the individual needs of their fellows.

II) Institutional Organization:

- A) Relationship to a Core Program: Institutions with sub-specialty training in orthopedic anesthesia has a direct affiliation with an ACGME accredited residency in anesthesiology.
- B) Institutional Policy and Resources: The fellowship is recognized and approved by the institution's division of Medical Education.

III) Program Director and Faculty:

- A) Program Director: Dr Jacques E Chelly is the Director of the orthopedic anesthesia fellowship.
- B) Faculty: The majority of the faculty in the training program are Board-Certified (or equivalent) in Anesthesiology and have demonstrated an expertise in orthopedic anesthesia, peripheral nerve blocks and others regional

techniques, acute pain and rehabilitation. The fellows will be under the supervision of at least one faculty per site.

IV) Facilities and Resources:

Fellows will be rotated through UPMC Presbyterian Shadyside, Southside and Children Hospital. These hospital have demonstrated appropriate facilities and resources available to the faculty and fellow(s) to perform state of the art techniques. In addition, they have appropriate support services, which include, anesthesia technical, radiology, physical therapy and pharmacy. A departmental library, and several institutional libraries, dedicated to anesthesiology with literature specific to the practice of orthopedic anesthesia, acute pain and rehabilitation are maintained.

V) The Educational Program:

A) Clinical Education: The clinical program will serve as the cornerstone of the fellowship training in orthopedic anesthesia, acute pain and rehabilitation.

In order to achieve the necessary level of expertise in orthopedic anesthesia, acute pain and rehabilitation, fellows should be asked to familiarized themselves with the indications, contraindications, techniques, and complications of the techniques used to provided orthopedic anesthesia, acute pain and rehabilitation including but not limited to:

Fellows will also be requested to complete daily case logs to track their clinical experiences. These logs will be reviewed at least once a month with the appropriate faculty advisor.

By the end of the fellowship, fellows will have to show competency in the following areas:

- Anesthesia, acute pain and rehabilitation for joint replacements (Shoulder , elbow, hip, knee and ankle)
- Anesthesia, acute pain and rehabilitation for sport related injury (wrist, shoulder, knee and ankle)
- Anesthesia, acute pain and rehabilitation for spine surgery
- Anesthesia, acute pain and rehabilitation for orthopedic oncology
- Anesthesia, acute pain and rehabilitation for pediatric orthopedics
- Peripheral and neuroaxial blocks both single and continuous techniques

In each of these areas, the fellow will have to demonstrate rational selection of anesthesia and pain medicine techniques for specific clinical situations, effective physician patient relationship skill. The fellows will also have to demonstrate knowledge on how provide cost-effective care, and effectiveness in the management of the all aspects of orthopedic anesthesia, acute pain and rehabilitation both intraoperatively and postoperatively as well as effective management of critically ill patients as well as those with difficult airways. In addition, the fellow will be given the opportunity to access cadavers and/or electronic models, as well as advanced techniques for blocks such as ultrasounds.

- B) Didactic Educational Program: A didactic and educational program specifically dedicated to orthopedic anesthesia, acute pain and rehabilitation will also be a part of the fellowship training.
- i) A lecture series or Grand-Rounds which covers topics relevant to, but not limited to orthopedic anesthesia, acute pain and rehabilitation will take place at least once weekly. Fellows will also be asked to present articles under the supervision of an attending anesthesiologist. A case conference specifically designed for fellows and supervised by a qualified faculty will take place at least once per month.
 - ii) Fellows shall be expected to deliver a Grand Rounds lecture including a relevant literature review at least once during the course of the fellowship.
 - iii) Fellows will be educated in the practice of orthopedic anesthesia, acute pain and rehabilitation regional anesthesia from a multidisciplinary approach including joint conferences with the orthopedic, pain medicine, physical therapy and medical departments.
 - iv) Fellows will have the opportunity to demonstrate teaching ability of junior residents during the academic year.

By completion of the accredited program, the fellow will be expected to have a working knowledge base consisting of the following:

- understands general attributes of anesthetics and local anesthetic pharmacology
- understands specific clinical attributes of various anesthetic and local anesthetic techniques.
- understands principles and indications for various local anesthetic adjuvants, including: epinephrine, phenylephrine, opioids, sodium bicarbonate, and clonidine
- understands indications and contraindications for major anesthetic techniques
- understands complications of regional anesthetic techniques
- understands principles of acute pain management in orthopedics
- understands the influence of anesthesia, acute pain and rehabilitation in perioperative orthopedic outcomes
- develops familiarity with major scientific studies related to orthopedic anesthesia, acute pain and rehabilitation.
- understand the management of patients with difficult airways

VI) Scholarly Activity- Expectations for Fellows:

Fellows will participate in clinical and/or laboratory research and be given appropriate non-clinical time to fulfill these goals. There will be opportunities for the fellow to become involved in research already in progress, or to develop an original project. In either case, an appropriate attending anesthesiologist will be appointed to mentor and assist the fellow to facilitate these goals. The types of activities that will be considered to suffice as academic projects include a research paper or case report, submitted to a peer-review journal and presented; a clinical

chart review or a review article submitted to, and accepted by a peer-reviewed journal; a book chapter; or other endeavor.

There will be discussion prior to commencement of the fellowship as to which of the above alternatives the fellow would like to pursue. If an original project is planned, the research protocol must be submitted with sufficient notice in order to complete the project in the time frame of the fellowship.

Scholarly Activity - Expectations for Faculty (from the ACGME Program Requirements for Residents in Anesthesiology):

The Department of Anesthesiology at UPMC, Pittsburgh, PA, 15232 has demonstrated quality of the educational environment. In addition, The Director of the fellowship program as well as the teaching faculty at the parent institutions have demonstrated extensive scholarly activity.

Documentation of scholarly activities is based on:

1. Active participation of the faculty in clinical discussions, rounds, and conferences in a manner that promotes a spirit of inquiry and scholarship. Scholarship implies an in-depth understanding of basic mechanisms of normal and abnormal states and the application of current knowledge to practice.
2. Participation in journal clubs and research conferences
3. Participation in research, and either publish or present in at national scientific meetings.
4. Active participation in regional or national professional and scientific societies, particularly through presentations at organizations' meetings and publications in their journals.
5. Providing guidance and technical support (eg, research design, institutional committee protocol approval, statistical analysis).

While not all members of a teaching faculty are investigators, clinical and/or basic science research is ongoing in the department of anesthesiology of the parent institution. The faculty, as a whole, are actively involved in all phases of scholarly activity as defined above in order to be considered adequate to conduct a program of graduate education in anesthesiology.

VII) Consultant Skills:

A) Communication Skills: Fellows should possess communication skills sufficient to solicit and impart information. The fellow must be able to clearly delineate options available to the patient regarding of benefit/risk ratio of orthopedic anesthesia, acute pain and rehabilitation techniques.

B) Collaboration Skills: Fellows must be able to work in a team environment, communicating and cooperating with surgeons, nurses, pharmacists, physical therapists and all members of the perioperative team.

By the end of the fellowship, fellows will be able to:

- appreciate the roles of other members of the team
- communicate clearly in a collegial manner that facilitates the achievement of care goals
- help other members of the team to enhance the sharing of important information
- formulate care plans that utilize the multidisciplinary team skills, such as a plan for facilitated recovery

VIII) Evaluation:

- A) As per ACGME Residency Guidelines, the attending faculty will be evaluated by the fellows twice annually
- B) Written evaluations of fellows by all faculties with whom they have worked shall occur quarterly and be reviewed. The results of these evaluations shall be recorded and reviewed with the fellows by the program director no less often than every six months.

XI) **Schedule for the clinical rotations**

1 month for training in anesthesia and acute postoperative pain in orthopedic trauma (UPMC Presbyterian Hospital)

2 months for training in anesthesia and acute postoperative pain in joint replacement (UPMC Shadyside Hospital)

1 month for training in anesthesia and acute postoperative pain in orthopedic oncology (UPMC Shadyside Hospital)

1 month for training in anesthesia and acute postoperative pain in pediatric orthopedics (UPMC Children Hospital)

1 month for training in anesthesia and acute postoperative pain in anesthesia and acute postoperative pain in chronic pain related to orthopedic surgery (UPMC St. Margaret)

2 months for training in anesthesia and acute postoperative pain in sport medicine related surgery (UPMC St Margaret Hospital, UPMC South-Side Hospital)

2 months for training in anesthesia and acute postoperative pain in spine surgery (UPMC Presbyterian-Shadyside)

2 months for an elective for additional training in any of the sub-specialty of orthopedic surgery or research