



**THE PHILIPPINE BOARD OF ORTHOPAEDICS, INC.**

# **Manual of Policies and Procedures**

for Orthopaedic Residency Education

*Third Edition*

**Prepared by:**

The 2009 and 2010 Board of Trustees



## About the Philippine Board of Orthopaedics

The Philippine Board of Orthopaedics, Inc. (PBO) is the official accrediting and examining arm of the Philippine Orthopaedic Association (POA), and is administratively independent of the latter.

Duly registered with the Philippine Securities and Exchange Commission, it is tasked with accreditation and supervision of residency training programs (graduate medical education) in Orthopaedic Surgery in the Philippines. It is also tasked with the administration of the Orthopaedic In-Training and Qualifying Examinations to resident physician trainees, and the Diplomate Examinations to qualified graduates of accredited training programs.

### ***Vision***

The Philippine Board of Orthopaedics is a model of excellence and integrity as a regulatory specialty board with competent and principled members.

### ***Mission***

The Philippine Board of Orthopaedics (PBO) functions to serve the best interest of the public and of the medical profession by continuously enhancing the standards of Orthopaedic Training and Education in the Philippines.

### ***Functions***

GENERAL: The PBO regulates Orthopaedic Residency Training programs in the Philippines.

SPECIFIC:

- Monitors training programs by accreditation and inspection.
- Administers annual *In-Training Examination* of trainees of accredited institutions.
- Administers *Qualifying Examination* of graduating trainees of accredited institutions.
- Administers *Diplomate Examination* of graduates of accredited institutions.
- Implements measures to continuously improve the quality of Orthopaedic Residency Training and Education in the Philippines.
- Recognizes and awards outstanding residents.

# **Manual of Policies and Procedures**

for Orthopaedic Residency Education

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## Preface to the Third Edition

This PBO *Manual of Policies and Procedures for Orthopaedic Residency Education* defines the Policies and Procedures for accreditation of training institutions and more importantly the conduct of training and the recommended curriculum for Orthopaedic Residency Training in the Philippines.

The original manual (known as the *Greenbook*) was prepared by the 1994 PBO Board of Trustees to whose credit belongs the initial conception of this important document. The 1998 Board of Trustees revised the original edition primarily to incorporate Board Resolutions and new guidelines pertaining to accreditation and training procedures that have been adopted since the first edition.

The 2009 and 2010 PBO Board of Trustees felt it was time for another revision for various reasons. The ever dynamic field of Orthopaedics has seen in the last decade the introduction of new technologies and treatment paradigms. Recent researches have supplanted dogmatic treatment approaches and introduced entirely new treatment concepts due to better understanding of musculoskeletal problems. Moreover, the changing socioeconomic climate in the country has generally changed the landscape of practice in the Philippines. Whereas training programs were primarily based in government tertiary and specialty hospitals, the last twelve years have seen the participation of major private hospitals in the training of future orthopaedists. Lastly, globalization has seen the admission of foreign medical graduates into these hospital-based training programs.

Deficiencies in training resources can be made up for by a good system. This latest revision aims to help PBO accredited programs have a more structured training system. It took inspiration in quality management principles and harnessed best practices in contemporary British, North American and Australian orthopaedic graduate education systems.

In this third edition, it was deemed necessary to make changes in format and content in keeping with the recent concepts in orthopaedic education. The original principle of providing guidance to accredited training institutions remains the same.

Finally, we quote from the previous edition:

“Being a human document, the Greenbook cannot lay claim to perfection. But in conceiving this, it was not perfection that was being pursued, but the satisfaction of the purpose for which it was conceived.”

**The 2009 and 2010 PBO Board of Trustees**  
*Manila 2010*



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# 1. Accreditation of Training Institutions

## A. Procedures for Application

Institutions desiring to have their Residency Training Program in Orthopaedics accredited must be guided by the following procedure:

1. The hospital through the department chair and with prior approval of the Medical Director/Chief of Hospital must submit a letter of application addressed to the Chairman of the Philippine Board of Orthopaedics.
2. The Philippine Board of Orthopaedics will in turn send an *Application for Accreditation* Sheet (Form AC-01) and *Accreditation Information Sheet* (Form AC-02). Alternatively, these forms may be downloaded from the PBO Website ([www.pbortho.org](http://www.pbortho.org)).
3. The applicant will submit the accomplished forms and the application fee. The Accreditation Information Sheet shall contain statistics of the full year prior to application.
4. The PBO Committee on Accreditation will evaluate the application information and statistics submitted. Applicants who cannot show evidence of fulfilling the minimum requirements for accreditation will be notified accordingly.
5. Applicants whose data indicate compliance with the minimum requirements will be visited by a team composed of members of the Committee on Accreditation.
6. The Committee on Accreditation will meet, deliberate, evaluate and make reports and recommendations to the Board of Trustees.
7. The Board of Trustees will notify the Applicant about the result of the evaluation.

## B. Requirements for Full Accreditation

The following requirements apply to all accreditation categories, but more specifically so for *Full Accreditation* (see below under *Accreditation Categories*). All training programs should strive for this category. Additional guidelines for *Consortium*, *Linkage*, *Affiliation* and *Satellite* institutions are provided in the succeeding section.

### *Hospital Requirements*

1. The program should be in a hospital with at least 100 bed capacity, of which a minimum of ten is allocated for the exclusive use of orthopaedic patients.
2. There must be a separate and adequately equipped Orthopaedic Outpatient Clinic.
3. Operating Room facilities must be adequate for performing minor and major Orthopaedic procedures in Trauma, Adult Orthopaedics, Pediatrics, Spine and Hand. These includes a C-arm (fluoroscope), orthopedic table (C-arm compatible) and arthroscope.
4. Rehabilitation facilities and a brace shop must be available within the vicinity of the Hospital.
5. An Orthopaedic library with standard textbooks, journals and other references including electronic resources must be available.
6. There must be a Radiology Unit with a board certified Radiologist in attendance. There must be easy access to CT-scan and MRI in the locality.

7. There must be a Pathology Unit with a board certified Pathologist capable of doing clinical and anatomic pathology.

### ***Department Requirements***

#### 1. Training Staff

- a. **Chairman**: Must be a Fellow of the Philippine Orthopaedic Association (POA) and an active staff member of the hospital.
- b. **Training Officer**: Must be a Fellow of the POA and an active staff member of the hospital.
- c. **Consultant Staff**: At least three other Fellows of the POA with subspecialty expertise who are credentialed by the hospital and actively involved in the training .

#### 2. Resident Staff

- a. A selection Board/Committee/Panel prescribed by the institution must appoint the residents whose numbers shall be in compliance with guidelines set forth by the PBO. This will be determined based on the census of cases.
- b. The residents must fulfill the following requirements:
  - i. Each resident must take the annual Orthopaedics In-Training Examination (ITE) for four years, the last of which shall serve as the Qualifying Examination for the PBO Diplomate Examination.
  - ii. Each resident must keep an updated PBO logbook of operations and summary of operations with corresponding codes. These logbooks/summary of operations are subject to inspection by the PBO anytime and is to be reviewed and certified by the Training Officer every quarter.
  - iii. Upon completion of residency training, each resident must have performed the minimum number of specific cases as determined by the PBO Committee on Accreditation, and other special operative procedures which are required by the Board.
  - iv. Must have completed at least one research project approved by an institutional review board, be it departmental or for the entire hospital. This must have been published or presented orally or in poster format in national or international fora.

### **C. Accreditation Categories**

There are several categories a training institution may apply for: *Full Accreditation*, *Consortium*, *Linkage*, and *Affiliation* and *Satellite*.

1. **Fully Accredited**: An institution capable of providing all the training needs of its trainees independent of other institutions.
2. **Consortium**: Several hospitals whose training programs cannot individually be accredited, but as a group can establish a residency training program with its pooled resources and with only one administrative body, i.e. one training committee with one department chairman and training officer.

3. **Linkage:** The mutual exchange of residents coming from accredited residency training programs whose training programs cannot individually be accredited because of some deficiencies and shortcomings in terms of patient population and other needed resources. Each institution has its own department Chairman and Training Officer. Each can retain their individual accreditation through this scheme.
4. **Affiliation:** A residency training program that sends residents to one or more accredited residency training programs and not receiving residents in return.
5. **Satellite:** A Satellite institution is not by itself a training institution, but is a specialty hospital catering to cases that may satisfy the service and training needs of an accredited training institution. These institutions must be staffed by Fellows of the POA in order to qualify under this category.

## **D. Additional Guidelines for Accreditation of Consortiums, Linkages, Affiliations and Satellite Training Institutions**

### ***CONSORTIUM Guidelines***

#### **1. REQUIREMENTS**

- a. There must be a Notarized Memorandum of Agreement signed by the responsible officers of the institutions desiring to form, sustain and maintain a *Consortium*. This will contain the scope of the involvement, functions and responsibilities of the member-hospitals. The effectivity of such an agreement should not be less than the length of the Residency Training Program. The participating institutions should come from a local area where there is no accredited training program.
- b. The Orthopaedic Department of the participating hospitals shall be under the supervision and control of one set of Consortium officers, i.e., one Chairman, one Training Officer and one set of Training Staff.
- c. There must be only one set of Residents who will rotate among the member-hospitals. The number of residents in training will depend upon the capacity of the consortium.
- d. There must be only one Residency Training Program to be followed by all participating member-hospitals.
- e. The approval of the PBO must be secured before any consortium can be formed.

#### **2. ACCREDITATION**

- a. The accreditation of the training program will apply only to the *Consortium*.
- b. The initial period of accreditation of the *Consortium* will be for one year (Provisional Accreditation) with provisions for regular visits.

#### **3. MONITORING**

- a. The *Consortium* must submit an Annual Report to the PBO Committee on Accreditation and other reports required by the PBO.
- b. The Committee on Accreditation will conduct a regular evaluation of the *Consortium* during the period of its Provisional Accreditation and thereafter as mandated by events.
- c. Members of the Resident Staff of the *Consortium* must take the Annual PBO In-Training Examination.

## ***LINKAGE Guidelines***

### 1. REQUIREMENTS

- a. There must be a Notarized Memorandum of Agreement signed by the responsible officers of the institutions desiring to form, sustain and maintain a *Linkage*. This will contain the scope of the involvement, functions and responsibilities of the member-hospitals. The effectivity of such an agreement should not be less than the length of the Residency Training Program.
- b. Each participating institution on its own would not be able to meet the requirements for an independent accreditation. It would need the facilities of the other institution to fully meet the requirements. The same is true with the other participating institution.
- c. The Orthopaedic Department of each participating institution shall be under the supervision of their own Chairmen and Training Officers. They will have their own roster of residents.
- d. The residents of all the participating institutions involved in the linkage shall rotate from among the different member-institutions. They shall have regular conferences and common activities among themselves.
- e. The Orthopaedic Departments of the participating hospitals shall retain their own identity as an accredited training program for as long as they participate in the *Linkage*. Any change in the status would have to be approved by the PBO Board of Trustees, and which may result in the loss of the accreditation status.
- f. The approval of the PBO Board must be secured before any formal *Linkage* can be formed and started.

### 2. ACCREDITATION

- a. The accreditation of the training program will apply to each member-hospital of the *Linkage*.
- b. The initial period of accreditation of the Consortium will be for one year (provisional accreditation) with provisions for regular visits.

### 3. MONITORING

- a. The member-hospitals of the *Linkage* must individually submit an Annual Report and other reports required by the PBO to the Committee on Accreditation.
- b. The Committee on Accreditation will conduct a regular evaluation of each member-hospital of the *Linkage* during the period of its Provisional Accreditation and thereafter as mandated by events.
- c. Resident physicians of the member-hospitals of the *Linkage* must take the Annual PBO In-Training Examination.

## ***AFFILIATION Guidelines***

1. There must be a Notarized Memorandum of Agreement signed by the responsible officers of the institutions agreeing to form, sustain and maintain an Affiliation. This will contain the scope of the involvement, functions and responsibilities of the member-hospitals.
2. The receiving hospital's program must also be accredited.
3. Before any Affiliation can be done, the approval of the Board of Trustees must be obtained upon recommendation of the PBO Committee on Accreditation.
4. Outside rotations for any year level are allowed provided that proper notification of the Board has been undertaken.
5. The rules and regulations of the receiving hospital will govern the affiliating resident.

### ***SATELLITE Guidelines***

1. There must be a Notarized Memorandum of Agreement signed by the responsible officers of the institutions agreeing to form, sustain and maintain a Satellite institution. This will contain the scope of the involvement, functions and responsibilities of the two hospitals involved.
2. The receiving hospital must have bonafide fellows of the POA in good standing who are also staffs of the accredited training institution involved.
3. Before a *Satellite* Institution can be established, the approval of the Board of Trustees must be obtained upon recommendation of the PBO Committee on Accreditation.
4. Outside rotations for any year level are allowed provided that proper notification of the Board has been undertaken.
5. The rules and regulations of the receiving hospital will govern the affiliating resident physicians.

### ***E. Status of Program***

1. **Full Accreditation.** The training program is accredited after fully satisfying the requirements of the PBO and has produced residents who have already passed the Diplomate exam.
2. **Provisional Accreditation.** This refers to a new program approved for accreditation after having satisfied the requirements of the PBO.
3. **Conditional Accreditation.** This is given to training programs under the following conditions:
  - a. Warning status (see *Sanctions and Censures* in Chapter 2)
  - b. Previously suspended/terminated programs applying for reaccreditation

This status is effective for a period of one (1) year. The PBO may opt to re-inspect the program within six months after this status has been given pending a request for re-accreditation. The program Chairman must notify all current residents and applicants to the program of this status in writing.

4. **Disapproved.** This applies only to new applicants who have failed to meet the accreditation requirements.

### ***F. Changes in Number of available Residency Positions***

Changes in total number of residents or number of residents in any specific year level must receive prior written approval from the Accreditation Committee of the PBO. This applies to the number of available residency positions. The entry of new residents to existing slots, and the reduction of residents from the program either through completion or termination need no notification of the Board.

The rationale for such changes must be explicitly stated by the program chairman. If an increase in the number of residents is requested, adequate increase in the service demand of the institution must be demonstrated.

In programs that plan to offer fellowships, resident education must not be adversely affected.



## 2. Maintenance of Accreditation of Training Institutions

### A. Annual Requirements/Obligations

1. *Annual Report.* Each Training Officer must submit to the Board an *Annual Report* on or before February 15 of each year. The report should conform to PBO Form AC-04 (see Appendix A: PBO Forms).
2. *Annual Accreditation Fee.* All accredited training institutions are subject to payment of an Annual Accreditation Fee as determined by the Board. The current fees are made available on the PBO Website.

### B. Conduct of Annual Inspection Visits

All training institutions are subject to an annual inspection visit.

#### *For inspection during visits:*

1. **Hospital:** All facilities required for accreditation, e.g. Laboratory, Operating Room, Outpatient Clinics, Orthopaedic Ward, Emergency Room and Library.
2. **Residents:** PBO Logbook, summary of operations, presentation of the annual report of the preceding year.
3. **Validation of case material:** Check number and variety of operations through OR and other hospital records.
4. **Records** of minutes of conferences/meetings pertaining to residents' education.

#### *Expectations of the visiting team:*

1. Presence of the following: Chairman, Training Officer and all Residents are mandatory. The attendance of the rest of the faculty is encouraged.
2. All relevant records, logbooks and OR records should be available for inspection.

#### *Interview of Residents*

1. All residents should prepare to be interviewed to verify the data in their Logbooks and to discuss other important information regarding their training program.
2. The Chairman and/or Training Officer may be interviewed separately.

### C. Evaluation of Training Program

Evaluation of the training program is based on a scoring sheet (PBO AC-03). This evaluation is conducted during the annual inspection visit,

### D. Sanctions and Censures

1. **Warning.** "Full Accreditation" status is downgraded to "Conditional". This status is kept for a period of one year within which the program is re-inspected. Institutions with this status who fail to show evidence of correction of previously noted deviations will face suspension of their training programs. When deficiencies are corrected and the "Warning" status is lifted, the status "Accredited" is reinstated after the one year stipulated.
2. **Suspension.** of a residency training program shall be for a minimum of twelve months and shall take effect upon deliberation by the Board and due notification of the involved program. The Board will allow the current residents to continue their

training. However, the Board will not recognize new residents. Application for reaccreditation must be made in writing within two years once the deficiencies have been corrected and other requirements fulfilled as determined in a revisit.

3. **Termination.** If a suspended program is unable to comply with the requirements imposed by the PBO after two years, the program will finally be denied accreditation. Termination shall take effect upon decision by the PBO and the program duly notified. The training of residents following the termination will no longer be recognized by the Board. Affected residents may transfer to other accredited programs by lateral entry to carry on with their training.

## **E. Appeals**

A program chairman may appeal any unfavorable ruling made by the Accreditation Committee. This must be done in writing and addressed to the PBO Chairman. An appeals ad-hoc committee is formed by the PBO Chairman from the members of the Board of Trustees to be headed by the Accreditation Committee Chairman. A hearing is held, following which the appeals committee transmits its decision to the PBO Chairman. Final action is then taken and the program Chairman appealing the decision is notified of this action in writing.

### 3. Selection and Recruitment into the Program

#### A. New Entrants

A selection Board/Committee/Panel prescribed by the training department must appoint the residents following a formal selection process. This selection process must be documented and subject to review by the PBO. It will include appropriate forms as necessary.

#### B. Lateral Entrants

In some circumstances, trainees find it necessary to transfer from one accredited training program to another. This is considered as *lateral entry* into a training program. Regardless of their reasons, the PBO allows this. The Board gives the accepting institution the prerogative to decide what particular year level the transferee will be considered to be in on entry. If a lateral entrant is downgraded to a lower year level, he may retake the ITE of his re-entry level. The current score will be the basis for the computation of his final qualifying exam score.

#### C. Foreign Medical Graduates

Increasing numbers of Foreign Medical Graduates (FMG, graduates of medical schools outside the Philippines or foreigners who have obtained their medical degree from Philippine schools) are participating in various graduate medical education programs in the Philippines. Orthopaedic Residency programs are no exception.

The Philippine Constitution (Section 14, Article XII) provides that the practice of all professions in the Philippines shall be limited to Filipino citizens, except in cases prescribed by law. While residency training is considered to be “practice of profession”, the Professional Regulation Commission (PRC) has issued Resolution 98-547 that allows for Foreign Medical Graduates (recognized as “Foreign Professionals” in the said resolution) to be accepted in residency training programs in the Philippines.

These FMG’s will be treated by the PBO as being in the same footing as local medical graduates except for one thing: they will not be qualified to take the Practical Component of the Diplomate Exam. They are therefore not eligible for Fellowship to the Philippine Orthopaedic Association. They will however be allowed to take the In-Training Examination for all year levels for purposes of self-assessment and evaluation by their trainers. They are also eligible for certification of completion of training by their respective institutions.

The minimum requirements prior to acceptance in a training program are:

1. A valid temporary license issued by the PRC
2. Alien employment registration certificate issued by the Department of Labor and Employment.
3. Other requirements required by relevant regulatory government bodies.

All FMG trainees are expected to comply with all requirements of Filipino residents in training.



## 4. Conduct of Training and Learning Opportunities

### A. The Program

The Training Officer should produce an outline of rotation for each year level of training to enable residents to acquire the necessary skills and knowledge to fulfill each stage of training. The PBO provides the following schedule as a guide to such rotations, but each training program may revise it in accordance with their institution's situation (i.e. available case load and number of residents in training) or length of the training program (i.e. four or five-year):

<i>ROTATION</i>	<i>DURATION</i>
TRAUMA	Twelve (12) Months
ADULT	Twelve (12) Months
PEDIATRICS	Six (6) Months
HAND	Six (6) Months
SPINE	Six (6) Months
ELECTIVE	Six (6) Months

*Note:* Subspecialties of Arthroplasty, Ilizarov, Sports Medicine and Methods of Ilizarov shall be covered accordingly under the Adult and Pediatric rotations.

The training program should provide a cohesive core program, which should include opportunities for didactics, clinical presentation, journal discussions, research projects, clinical skills development and quality service to patients.

### B. External Courses

External organization (e.g. the POA, its chapters and subspecialty societies, the AO Group, other training institutions) regularly promote and organize continuing education meetings. The Training Officers must encourage participation to these sessions appropriate to their stage of learning. Participation to these meetings must be documented and reported as required in the PBO Annual Report.

### C. Educational Resources

The training programs must provide the residents adequate facilities for their education. This should include a library with books and electronic media. As there is now a wealth of internet-based instructional materials and medical resources, an internet connection for each training program is highly recommended.

### D. The Resident Trainee

Individual residents must take the ultimate responsibility for their own learning. It will be their obligation to ensure that they cover the syllabus (as set out in this Manual) and supplement the other aspects of their training with personal study, research and participation in external courses.

As part of the process of the work-based learning of the residency training, a resident would be expected to:

1. Attend the outpatient clinics
2. Attend supervised elective and emergency surgical cases
3. Undertake rotations in the Emergency Department for assessment and acute care of trauma cases

4. Undertake the care of patients in the ward environment
5. Participate in relevant conferences and teaching sessions organized by their respective departments
6. Participate in Journal Clubs
7. Undertake clinical reviews and research
8. Attend appropriately organized and instructed external courses, particularly the Annual and Midyear scientific meetings of the Philippine Orthopaedic Association
9. Produce poster presentations, oral presentations and publications
10. Undertake internet-based learning

### **E. Trainors/Faculty**

One of the most valued resources of the PBO-mandated training program is the time commitment and energy devoted by the consultant surgeons of the respective training programs. Although some would be in plantilla-positions in government hospitals, many in effect would be providing their services to the training program pro-bono.

Consultant surgeons participating in the training program are necessarily Fellows of the POA. Currently, there is no requirement for trainors to have completed formal training in education. It is highly recommended that those participating in training undergo some courses to enhance their role as trainers. Noteworthy are the programs offered by the National Teacher Training Center for Health Professionals at the University of the Philippines Manila. In the meantime, the PBO specifies the following minimum qualifications of a trainor:

1. Currently a Fellow in good standing of the POA
2. Be familiar with and understand the Curriculum in the PBO Manual
3. Commitment to devote time to training of residents and to undertake continuing professional development endeavors, although it is acknowledged that the time component devoted is unlikely in many cases to be materially compensated
4. Commitment to maintain their good standing with the POA

The Chairman of each respective program is expected to encourage members of the faculty to undertake subspecialty training, and as already mentioned, to take up formal training in education.

#### ***Responsibilities of the Faculty***

1. To coordinate the management, education and training of residents.
2. To conduct performance assessment meetings and complete assessment reports as required.
3. To monitor resident's surgical experience and regularly review the operative logbooks.
4. To identify, document and advise the trainee of any unsatisfactory or marginal performance at the earliest possible opportunity.

### **F. Professionalism**

Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

1. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and ongoing professional development.
2. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practice.

3. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

To achieve the goal of inculcating the sense of Professionalism among trainees, the faculty/trainors of each training program must strive to develop modules that discuss ethical issues in orthopaedic surgery. To be implemented successfully, these studies must include substantial focused discussion and incorporate the background information in the literature with appropriate moderators leading the discussion. In addition, as ethical issues arise that relate to the orthopaedic community, open dialogue with the residents must be undertaken to provide them with the perspective on these issues. Lastly, as ethical role models continue to be at the core of teaching ethics and professionalism effectively, the faculty and trainors themselves are expected to exhibit strong adherence to sound practices and professional behavior.



## 5. Assessment and Feedback

### A. Assessment of Trainees Performance during Clinical Training

Each accredited training institution shall have a Training Officer appointed by the Chairman of the respective department. Training Officers coordinate, and are responsible for, the management, education, training and assessment of resident trainees of their departments.

The rest of the consultant staff of the department shall assist the Training Officer with monitoring, guiding and educating residents, as well as appraising and assessing their performance in training.

The assessment of a trainee's performance by the Training Officer is fundamental to their continuing satisfactory progression through the residency training program.

1. An assessment report must be completed for each resident:
  - a. At least on a semi-annual basis, or quarterly following the completion of a quarterly rotation through the different subspecialties.
  - b. As soon as practical any time after the identification of unsatisfactory or marginal performance as determined by the Training Officer.
2. The Training Officer, or another designated Consultant (e.g. a designated Consultant of a subspecialty service), must have a performance assessment meeting to discuss the assessment report. Where unsatisfactory or marginal performance is identified the assessment report must be accompanied by a remedial plan.
3. The completed assessment report should be signed and dated by both the trainee and the assessing officer and should reflect the discussions held during the applicable performance assessment meeting. Signing the report confirms the assessment report has been discussed, but does not signify agreement with the assessment.
4. The completed assessment is then filed by the Training Officer in the resident's training portfolio. Residents are required to keep a copy of the assessment report for their personal records.

### B. Assessment of Surgical Experience during Training

1. Accurate reporting of the surgical experience by each resident is required. The logbook of operations will provide details about the resident's level of supervised and independent surgical operative experience.
2. The logbook must be completed by the resident at regular intervals and will be subject to review by the Board during the annual visit of the training institution.
3. The logbook must be reviewed and signed by the Training Officer, or an appropriate designee, at least on a quarterly basis.
4. Inaccurate or malicious recording of procedures in the operative logbook is considered as serious misconduct by the resident and may form grounds for the Board to recommend dismissal from the training program.

### C. Probationary Status for Unsatisfactory or Marginal Performance

1. Where an assessment report identifies unsatisfactory or marginal performance, the Training Officer must notify the trainee. A copy of the notification must be attached to the training portfolio of the resident. Such a notification should include:
  - a. Identification of the areas of unsatisfactory or marginal performance
  - b. Confirmation of the remedial action plan
  - c. Identification of the required standard of performance to be achieved
  - d. Notification of the duration of the probationary period
  - e. The time at which reassessment will be carried out
  - f. Possible implications if the require standard of performance is not achieved

2. The probationary period should be no less than three months and no more than six months.
3. During the probationary period the resident's performance should be regularly reviewed by the Training Officer and the resident should be offered constructive feedback and support.
4. If performance has improved to the satisfaction of the training officer at the conclusion of the probationary period the probationary status must be removed.
5. If performance has not improved to the required standard at the conclusion of the probationary period, the Training Officer may proceed with dismissal in accordance with administrative procedures of the respective training institutions. The Training Officer must notify the Board of such an action.

#### **D. Instruments of Assessment**

In general assessment of resident trainees must take place in the workplace where possible, using an agenda based on the syllabus described in this document. Where appropriate, knowledge and its application will be assessed by formal examinations prepared by the training faculty. It is recommended that in a setup where trainees progress from one rotation to another, a post-rotation examination is carried out. The following instruments are suggested for use by the Training Officers/Committee and may be revised as deemed fit:

1. **Peer Assessment Tool** (see *Form AT-01* at Appendix A: PBO Forms). This is a type of 360-degree appraisal strategy which measures many aspects of the performance of a resident. Raters should include consultant staff, co-residents, nurses, anesthetists and allied health professionals as deemed appropriate by the training officer. The aggregate ratings are used to provide feedback on behaviors and skills.
2. **Clinical Evaluation Exercise** (see *Form AT-02* at Appendix A: PBO Forms). This is the direct observation of the clinical skills in the ward or in outpatient clinics of the trainee: e.g. history taking, physical examination, discharge work up. Preferably one such assessment is carried out for each rotation throughout a particular year level of training.
3. **Case Based Discussion** (see *Form AT-03* at Appendix A: PBO Forms). This is a focused discussion of the resident's recent entries in a patient's clinical record to explore clinical thinking and management.
4. **Direct Observation of Practical Skills** (see *Form AT-04* at Appendix A: PBO Forms). The instrument allows assessment of commonly performed straight forward procedures in the operating room and clinic or ward settings. This would include for example suturing, applying a cast, or injecting a joint.
5. **Logbook Monitoring**. The logbook allows the residents the opportunity to document all operations which they attend and the extent of their involvement in the operation. It provides external auditors such as the PBO a tangible evidence of the surgical experience of the trainees. The data available in the logbook allows scrutiny not only of an individual trainee's experience, but training patterns by trainors at varying stages of their participation in the program. This can be vital in understanding satisfactory and unsatisfactory progress on the part of a trainee or even demonstrating an unsatisfactory training environment and an uncommitted trainer. Further details on proper utilization of the Logbook are discussed under Management of Quality Assurance of Training (page 21).

## **E. PBO-initiated formal tests of knowledge during training**

Two types of examinations are administered by the Board during the period of residency training. Although they are the same examination, they are differentiated as follows:

1. In-training Examination (ITE). The ITE is a formal test of knowledge relevant to the training of the residents conducted by the PBO. This assessment is specifically to test knowledge and to a limited degree application of knowledge. The format is multiple choice questions. It is conducted annually for year level I to level III. Results of these examinations will be a part of the composite score of the Qualifying Examination.
2. Qualifying Examination. Each graduating resident of an accredited training program must pass this examination before he can be qualified to take the Diplomate Examination. The score from this examination will comprise a major part of the final score.

The In-Training Examination taken by each resident on his fourth and/or final year of residency serves as the Qualifying Examination. The Training Officer/Committee should furnish the PBO the list of qualified residents from their respective institutions.

Passing of the Qualifying Examination is a requisite to taking of the Diplomate Examination. The Qualifying Exam can only be taken a maximum of three times before a graduate is allowed to take the Diplomate Examination. After three unsuccessful attempts, the examinee is required to take a refresher course of at least six months from designated accredited training institutions. A certificate of completion of the refresher course should be submitted to the PBO before the candidate is allowed to retake the exam.

## **F. Faculty Evaluation**

The PBO recommends that a periodic faculty performance evaluation be undertaken.

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



## 6. Completion of Training

Training will be deemed complete when the trainee has satisfactorily achieved the learning objectives recommended in the curriculum. At this stage, the trainee should be able to join and lead a multidisciplinary team which would receive, assess and go on to definitively manage the majority of patients who need emergency treatment. He would be able to provide a similar service for a range of common non-urgent conditions.

### The PBO Diplomate Examination

The PBO Diplomate Examination is the Certifying Examination in Orthopaedics required for eligibility to become a Fellow of the Philippine Orthopaedic Association.

#### A. Requirements

1. **Board Eligibility:** The minimum requirements to take the Diplomate Examination are the following:
  - a. A valid physician's license (issued by the Professional Regulation Commission) to practice in the Philippines.
  - b. Completion of residency training in an institution accredited by the PBO.
  - c. The candidate must have passed the Qualifying Examination given by the PBO.

NOTE: A Filipino who has completed his training overseas may take the Diplomate Exam provided that he can show proof of having passed the certifying examination in the country where he trained. This may be subject to primary source verification at the expense of the applicant.

#### 2. Documentary Requirements

- a. A written application to take the examination must be submitted to the Board through the Secretary at least 60 days before the scheduled date of examination. The date of the examination for the current year is set by the PBO at the start of the fiscal year.
  - b. The applicant shall also submit to the Board not later than 30 days prior to the examination the following:
    - i. A properly filled-up PBO Information sheet for Diplomate Examination (*PBO Form EC-01*)
    - ii. Two passport-size and one ID size pictures, current within the last six months
    - iii. Current Curriculum Vitae
    - iv. List of surgeries done for the past 12 months, inclusive of surgeries done during fellowship if any
    - v. A research paper which the applicant had done during or after his residency training
    - vi. A photocopy of Diploma or Certificate of Completion of Training from the Institution he graduated from
3. Payment of the Application/Examination Fee, the amount of which is to be determined by the Board. The current fee is published in the PBO website ([www.pbortho.org](http://www.pbortho.org)).
  4. The Committee on Examination shall review the applications and requirements submitted. The Secretary will inform the applicants who are approved and are qualified to take the Diplomate Examination. They will also be issued examination permits to enable them to take the examination at the specified time and venue.

## **B. Schedule of Examinations**

1. The Board through the Examination Committee shall administer and schedule not later than October 31 of each year the Diplomate Examination. The specific date and place of the examination as determined by the Board will be announced before the date of the examination.
2. The Diplomate Examination shall be administered in three parts:
  - a. Part 1: Written Examination
  - b. Part 2: Oral Examination
  - c. Part 3: Practical Examination
3. A candidate must take all three parts of the examination. Passing each part is a requisite to the next part (i.e. passing Part 1 is requisite to taking Part 2). The Board has the prerogative to grant exemptions to deserving examinees in Part 3.
4. The Board Eligible candidate is allowed three attempts to pass any part of the examination. Failure to pass after the third attempt will require the candidate to take a six-month refresher course in any of the accredited programs designated by the PBO. During the refresher course, the candidate shall be an observer in the institution and will attend conferences and rounds as follows:
  - a. Trauma Service: 8 weeks
  - b. Adult Service: 6 weeks
  - c. Spine Service: 4 weeks
  - d. Pediatric Service: 4 weeks
  - e. Hand Services: 2 weeks
5. A certification of attendance to the refresher course by the Program Chairman will be required before the candidate is allowed to retake the Diplomate Examination.
6. Candidates who have passed Parts 1, 2 and 3 as determined by the Board of Trustees are notified by mail. A certificate/diploma to this effect will be issued with all the rights and privileges thereunto appertaining to the title **Diplomate of the Philippine Board of Orthopaedics**.

## 7. Management of Quality Assurance of Training

### A. PBO Annual Inspection Visits

The Board shall conduct annual inspection visit of each training institution to monitor, evaluate and ensure quality of orthopaedic education and care. The review process will be fair, clear and will provide feedback designed to inform progression wherever possible.

### B. Formal Tests of Knowledge (Examinations)

All residents are expected to demonstrate knowledge in the basic surgical sciences, anatomical knowledge of sufficient depth to facilitate training in musculoskeletal surgery and specific patho-physiological and biomechanical knowledge relevant to surgery. This is achieved through two examinations conducted by the Board within the period of residency training:

1. Orthopaedic In-Training Examination
2. Qualifying Examination

This assessment is designed specifically to test knowledge and to a limited degree application of knowledge. The application of knowledge and its use in judgment by graduates of training programs will be assessed in the Diplomate Examination.

### C. Logbook Monitoring

The Residents' Logbook (logbook of operations) allows the training residents an opportunity to document all operations which they attend and the extent of their involvement in the operation. Cases shall be coded using the following scheme

CODE		DETAILS
P	=	Performed operation (no supervision)
CU	=	Supervised, Consultant Unscrubbed
CS*	=	Supervised, Consultant Scrubbed
A1	=	Assisted at operation (1 <sup>st</sup> assistant)
A2	=	Assisted at operation (2 <sup>nd</sup> assistant)

\*must have performed the essential components of the surgery  
(As certified by the consultant in charge) to differentiate this code from "A"

Such a scheme allows for a better assessment of the trainees level of experience relative to other trainees and in the future will allow the creation of "normalized" data allowing the Board to create definitive standards for required experience. Comparison of numbers of operations attended, the extent of surgical exposure and the level of supervision can now be made and this can be scientifically analyzed by the Board.

The data that can be harnessed from this system will allow Training Officers of each institution better scrutiny of each resident's experience at varying stages of their training. It will also provide the Board with vital "hard data" in understanding satisfactory and unsatisfactory progress on the part of the resident or even demonstrating an unsatisfactory training environment and an uncommitted trainer.

The utilization of the Residents' Logbook will continue to be a valuable quality assurance tool as it will allow monitoring of exposure of residents to operative orthopaedics.



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## 8. Syllabus/Curriculum

### A. OVERVIEW

Orthopaedics is a specialty which encompasses the management of musculoskeletal injuries, as well as congenital, developmental and acquired disorders of the bones, joints and their associated soft tissues, including vascular structures, nerves, muscles, tendons, ligaments and the integument.

The curriculum provides guidelines for the core competencies and learning standards by which graduates of Orthopaedic Residency Training Programs in the Philippines are evaluated. The Curriculum is presented to guide Orthopaedic graduate medical education by providing accessible information for both the trainees and trainers, its primary end users, and other stakeholders.

This syllabus is presented in three parts that capture the attitudes, knowledge and skills expected of orthopaedic resident trainees at various levels of training. These three parts consists of:

- **Applied Clinical Knowledge** (*pp. 24-41*) with specific application in context of general orthopaedics
- **Applied Clinical Skills** (*pp. 42-58*) including core competencies which are applied in specific procedures that are felt to encompass modern orthopaedic care in the Philippines
- **Attitudes** (*p. 59*) outline general aspects of behavior trainees are expected to demonstrate while in training and which they hopefully carry on into their practice

## Applied Clinical Knowledge

The Applied Clinical Knowledge portion contains fundamentals essential both to put in proper perspective skills and attitudes acquired in training and in order to practice as a full pledged orthopaedic surgeon. The knowledge expected is indicated on the following four point scale:

SCALE	DESCRIPTION
<b>1</b>	Familiar with/ understands principles
<b>2</b>	Knows and can apply basic concepts
<b>3</b>	Knows generally and analyzes
<b>4</b>	Knows specifically, broadly and currently

This scoring system is just a guide and more or less should reflect the intended learning outcome by year level. It demonstrates that there should be a cumulative learning throughout the duration of the residency period.

Residents must be able to apply the knowledge enumerated in Tables 1 to 6 in the succeeding pages in the relevant clinical situations.

**Table 1.** Applied Clinical Knowledge: Basic Science and Miscellaneous

<b>Applied Clinical Knowledge</b>	Year Level 1	Year Level 2	Year Level 3	Year Level 4
<b>A. Basic Science and Miscellaneous</b>				
<b>Basic Science in Orthopedics</b>				
1. Anatomy of the musculoskeletal system	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Histology of bone, cartilage, synovium, muscle, tendon, ligament, disc and nerve	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Physiology of the musculoskeletal system	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Biomechanics of the musculoskeletal system, kinematics and gait analysis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Physiologic growth changes and aging in the musculoskeletal system	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Physiologic and metabolic response to trauma	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Physiologic and metabolic response to infection	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
8. Physiologic response to changes in circulation, coagulation and thromboembolism	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
9. Fracture healing and biomechanics of fracture fixation	<b>1</b>	<b>3</b>	<b>3</b>	<b>4</b>
10. Biomaterials	<b>1</b>	<b>3</b>	<b>3</b>	<b>4</b>
11. Bone grafts, tissue banking and tissue transplantation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

<b>Applied Clinical Knowledge</b>	Year Level 1	Year Level 2	Year Level 3	Year Level 4
<b>A. Basic Science and Miscellaneous</b>				
<b>General Surgery</b>				
1. Shock and resuscitation	<b>2</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Approach to the multiply injured patient	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Approach to mangled extremity	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Perioperative medical management	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Blood loss in trauma/surgery and blood transfusion	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Pharmacology of commonly used drugs in orthopaedics	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Investigations</b>				
1. X-ray positioning and interpretation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Other imaging modalities: CT Scan, MRI, Ultrasound, Nuclear studies	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Bone Densitometry	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Electromyography and Nerve Conduction Velocity	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Blood Tests	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Research</b>				
1. Developing a research protocol	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>
2. Critical analysis of scientific articles	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
3. Evidence-based practice guidelines	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Principles of Epidemiology	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
5. Data analysis and statistics: principles and applications	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
6. Design and conduct of clinical trials	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>

**Table 2.** Applied Clinical Knowledge: Trauma

<b>Applied Clinical Knowledge</b>	Year Level 1	Year Level 2	Year Level 3	Year Level 4
<b>Trauma</b>				
<b>Basic Science</b>				
1. Biomechanics of fractures and fracture fixation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Classification of fractures	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Bone and joint healing	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Principles of nonoperative fracture treatment	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Principles of Internal Fixation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Principles of External Fixation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Management of the multiply injured patient	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
8. Management of open fractures	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
9. Principles of management of gunshot injuries	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
10. Principles of mangled extremity management	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Fractures and Dislocations</b>				
1. Distal radius and ulna fractures	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Radius and ulna shaft fractures	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Elbow fractures and dislocations:				
Radial head fractures	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Elbow instability	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Elbow dislocation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Elbow fracture dislocation and coronoid fractures	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Distal humerus fractures				
Supracondylar fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Condylar fracture		<b>1</b>	<b>2</b>	<b>3</b>
Intercondylar fracture		<b>1</b>	<b>2</b>	<b>3</b>
5. Humeral shaft fracture	<b>1</b>	<b>3</b>	<b>3</b>	<b>4</b>
6. Proximal humeral fracture, surgical and anatomic neck	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Clavicle fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
8. Scapular fracture				
Glenoid fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Scapular neck fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

8. Scapular fracture				
Scapular body fracture	1	2	3	4
Acromial fracture	1	2	3	4
Coracoid fracture	1	2	3	4
Scapulothoracic dissociation	1	2	3	4
9. Glenohumeral joint subluxation, dislocation and instability	1	2	3	4
10. Acromioclavicular joint injuries	1	2	3	4
11. Sternoclavicular joint injuries	1	2	3	4
12. Pelvic ring fracture				
Anterior pelvic ring injuries	1	2	3	4
Posterior pelvic ring injuries	1	2	3	4
13. Acetabulum fracture	1	2	3	4
14. Hip dislocation (with or without femoral head fracture)	1	2	3	4
15. Femoral neck fracture	1	2	3	4
16. Intertrochanteric fracture	1	2	3	4
17. Subtrochanteric fracture	1	2	3	4
18. Femoral shaft fracture	1	2	3	4
19. Distal femur fracture (including supra/intercondylar fracture)	1	2	3	4
20. Patella fracture	1	2	3	4
21. Tibial plateau fracture	1	2	3	4
22. Knee fracture dislocation	1	2	3	4
23. Tibia and fibula diaphyseal fracture	1	2	3	4
24. Pilon fracture	1	2	3	4
25. Ankle fracture (malleolar)	1	2	3	4
26. Talus fracture	1	2	3	4
27. Calcaneus fracture	1	2	3	4
28. Midfoot and forefoot fractures and dislocations (Chopart and Lisfranc)				
Navicular fracture, dislocation	1	2	3	4
Cuboid injuries	1	2	3	4
Cuneiform injuries	1	2	3	4
Tarsometatarsal injuries	1	2	3	4
Metatarsophalangeal injuries	1	2	3	4
Injuries to toes	1	2	3	4

**Table 3.** Applied Clinical Knowledge: Adult Orthopaedics

<b>Applied Clinical Knowledge</b>	Year Level 1	Year Level 2	Year Level 3	Year Level 4
<b>Adult Orthopaedics</b>				
<b>Basic Science</b>				
1. Knowledge of metabolic, degenerative, infectious and neoplastic diseases that affect the musculoskeletal system in the adult	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Knowledge of the pathoanatomic and pathophysiologic response of the musculoskeletal system to the above diseases	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Knowledge of the materials used in joint replacement and their biomechanics	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Knowledge of the materials and design of braces and prosthetic limbs	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Clinical Assessment</b>				
1. The resident must be able to clinically examine an orthopaedic patient with pathologic musculoskeletal disease competently and to relate effectively and professionally with the patient and family members	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. The trainee must be able to make proper management decisions in adult orthopaedic practice and to refer appropriately for treatment	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Investigations</b>				
1. Knowledge of the indications for plain x-ray, arthrogram, CT scan, MRI and the ability to interpret the images	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Knowledge of the indications for the use of ultrasound and nuclear imaging	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Awareness of the limitations of certain investigations	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Upon completion of the core curriculum in Adult Orthopaedics, the resident must be able to define and discuss the pathophysiology, incidence, types, clinical characteristics, diagnostic features, principles of management and prognosis of the following:				
<b>Diseases of Joints</b>				
1. Osteoarthritis of joints	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Rheumatoid arthritis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Palindromic rheumatism	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
4. Neuroarthropathy (Charcot joint)	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Hemophilic arthritis	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
6. Traumatic arthritis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Psoriatic arthritis	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>

8. Pigmented villonodular synovitis	1	2	3	3
9. Hemangioma of a joint	1	2	3	3
10. Osteochondromatosis	1	2	3	3
11. Synovioma	1	2	3	3
<b>Bone and Joint Infections</b>				
1. Acute osteomyelitis	1	2	3	4
2. Chronic osteomyelitis	1	2	3	4
3. Suppurative arthritis	1	2	3	4
4. Gonococcal arthritis	1	2	3	4
5. Reiter's syndrome	1	2	3	3
6. Tuberculosis of bones and joints	1	2	3	4
7. Mycotic infection of bones and joints	1	2	3	4
<b>Tumors</b>				
1. Osteoid osteoma	1	2	3	4
2. Osteochondroma	1	2	3	4
3. Chondroma	1	2	3	4
4. Chondrosarcoma	1	2	3	4
5. Chondromyxoid fibroma	1	1	2	3
6. Chondroblastoma	1	2	3	4
7. Giant Cell Tumor	1	2	3	4
8. Aneurysmal Bone Cyst	1	2	3	4
9. Unicameral Bone Cyst	1	2	3	4
10. Osteogenic Sarcoma	1	2	3	4
11. Benign osteoblastoma	1	2	3	4
12. Parosteal osteosarcoma	1	2	3	4
13. Fibrosarcoma	1	2	3	4
14. Reticulum cell sarcoma	1	2	3	3
15. Multiple myeloma	1	2	3	4
16. Liposarcoma	1	2	3	4
17. Adamantinoma	1	2	3	3
18. Hemangioma	1	2	3	4
19. Hemangioendothelioma	1	1	2	3
20. Fibrous dysplasia	1	2	3	4
21. Nonossifying fibroma	1	2	3	4

22. Myositis ossificans	1	2	3	4
23. Tumors of skeletal muscle	1	2	3	4
24. Metastatic tumors	1	2	3	4
<b>Metabolic Disorders</b>				
1. Primary hyperparathyroidism	1	2	3	3
2. Hypoparathyroidism	1	2	3	3
3. Pseudohypoparathyroidism	1	2	3	3
4. Rickettsia	1	2	3	4
5. Celiac disease	1	2	3	3
6. Osteomalacia	1	2	3	3
7. Hypophosphatasia	1	2	3	3
8. Scurvy	1	2	3	3
9. Gout	1	2	3	4
10. Pseudogout	1	2	3	4
11. Osteoporosis	1	2	3	4
12. Renal Osteodystrophy	1	2	3	3
13. Osteopetrosis	1	2	3	3
<b>Peripheral Vascular Disease</b>				
1. Arteriosclerosis obliterans	1	2	3	3
2. Thromboangiitis obliterans (Buerger's disease)	1	2	3	4
3. Diabetes mellitus angioneuropathy	1	2	3	4
4. Deep vein thrombosis	1	2	3	4
5. Reynaud's disease	1	2	3	3
6. Thoracic outlet syndrome	1	2	3	3
7. Acute and chronic arterial spasm	1	2	3	3
8. Arterio-venous fistula	1	2	3	3
9. Glomus tumor	1	2	3	3
<b>Afflictions of the Neuromuscular System</b>				
1. Cerebral Palsy	1	2	3	4
2. Poliomyelitis	1	2	3	4
3. Regional pain syndrome	1	2	3	4
4. Peripheral nerve entrapments	1	2	3	4
5. Guillian-Barre Syndrome	1	2	3	3
6. Post-cerebrovascular accident contractures	1	2	2	2

<b>Orthopaedic Disorders of Neglect</b>				
1. Neglected fractures: malunion, nonunion	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Neglected dislocations	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Recurrent dislocations	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Neglected congenital disorders	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Regional Orthopaedic Disorders</b>				
1. Lesions of the rotator cuff	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Frozen Shoulder/ Subacromial Impingement Syndrome	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Biceps tendon lesions	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Tennis elbow, Golfer's elbow	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Pulled elbow	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Avascular necrosis of the femoral head	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Transient synovitis of the hip	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
8. Bursitis about the hip	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
9. Calcified tendonitis of the hip joint	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
10. Congenital discoid meniscus	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
11. Chondromalacia patellae	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
12. Osteochondritis dissecans	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
13. Osteochondrosis of the knee	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
14. Knee instability	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
15. Anterior Cruciate Ligament rupture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
16. Tarsal tunnel syndrome	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
17. Metatarsalgia	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
18. March fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
19. Plantar digital neuroma	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
20. Hallux valgus	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
21. Longitudinal arch foot strain	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
22. Flatfoot	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
23. Cavus foot	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
24. Tarsal coalition	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
25. Osteochondrosis of the tarsal navicular	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
26. Hammer toe	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
27. Ingrown toe nail	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
28. Heel pain	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
29. Plantar fibromatosis	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>

**Table 4.** Applied Clinical Knowledge: Pediatric Orthopaedics

<b>Applied Clinical Knowledge</b>	Year Level 1	Year Level 2	Year Level 3	Year Level 4
<b><i>Pediatric Orthopaedics</i></b>				
<b>Basic Science</b>				
1. Detailed knowledge of the growth of bones, physal anatomy and its application to fracture types and pathological processes and infection in particular	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Knowledge of the anatomy of bones and joints in the growing child and its application to growth and deformity	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Knowledge of the neurological processes involved in the production of deformity (e.g., spina bifida, cerebral palsy, muscular dystrophy)	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Knowledge of the normal patterns of gait in the growing child		<b>1</b>	<b>2</b>	<b>3</b>
<b>Clinical Assessment</b>				
1. The resident must be able to clinically examine a child competently and to relate effectively with the family	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. The resident must be able to make proper management decisions in pediatric practice and to refer appropriately for treatment	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Investigations</b>				
1. Knowledge of the indications for plain x-ray, arthrogram, CT scan, and MRI and the ability to interpret the images	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Knowledge of the indications for the use of ultrasound and nuclear imaging	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Awareness of limitations of certain investigations in pediatric orthopaedics	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Upon completion of the core curriculum in Pediatric Orthopaedics, the resident must be able to define and discuss the pathophysiology, incidence, types, clinical characteristics, diagnostic features, principles of management and prognosis of the following:				
<b>Congenital Disorders of the Upper Limb</b>				
1. Sprengel's deformity		<b>1</b>	<b>2</b>	<b>3</b>
2. Cleidocranial dysostosis		<b>1</b>	<b>1</b>	<b>2</b>
3. Pseudoarthrosis of the clavicle		<b>1</b>	<b>2</b>	<b>3</b>
4. Ankylosis of the elbow, radioulnar synostosis, dislocation of the radial head		<b>1</b>	<b>2</b>	<b>3</b>
5. Polydactyly, syndactyly, camptodactyly, macrodactyly, clinodactyly, brachydactyly		<b>1</b>	<b>2</b>	<b>3</b>

6. Symphalism, trigger thumb		<b>1</b>	<b>2</b>	<b>3</b>
7. Reduction deformities: clubhand, cleft hand, phocomelia, amputations		<b>1</b>	<b>2</b>	<b>3</b>
8. Brachial plexus injury		<b>1</b>	<b>2</b>	<b>3</b>
<b>Congenital Disorders of the Lower Limb</b>				
1. Foot deformities: pes planus, pes cavus, vertical talus		<b>1</b>	<b>2</b>	<b>3</b>
2. Leg deformities: torsional, angular, leg length inequality deformities,		<b>1</b>	<b>2</b>	<b>3</b>
3. Clubfoot	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Congenital dislocation of the knee		<b>1</b>	<b>2</b>	<b>3</b>
5. Proximal femoral focal deficiency		<b>1</b>	<b>2</b>	<b>2</b>
6. Developmental Dysplasia of the Hip	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Miscellaneous Congenital Disorders</b>				
1. Constriction Band Syndrome	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Arthrogyrosis		<b>1</b>	<b>2</b>	<b>3</b>
3. Marfan's syndrome		<b>1</b>	<b>2</b>	<b>3</b>
4. Ehlers-Danlos syndrome		<b>1</b>	<b>1</b>	<b>1</b>
5. Trisomy 21 (Down's) syndrome		<b>1</b>	<b>1</b>	<b>1</b>
6. Turner's syndrome	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Developmental Disorders</b>				
1. Multiple epiphyseal dysplasia		<b>1</b>	<b>2</b>	<b>2</b>
2. Achondroplasia, diastrophic dwarfism		<b>1</b>	<b>2</b>	<b>2</b>
3. Melorrrheostosis		<b>1</b>	<b>2</b>	<b>2</b>
4. Metaphyseal dysostosis, metaphyseal dysplasia	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Osteopetrosis		<b>1</b>	<b>2</b>	<b>2</b>
6. Osteogenesis imperfecta		<b>2</b>	<b>3</b>	<b>4</b>
7. Mucopolysaccharidosis		<b>1</b>	<b>1</b>	<b>1</b>
8. Spondyloepiphyseal dysplasia		<b>1</b>	<b>1</b>	<b>1</b>
9. Enchondromatosis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
10. Hypophosphatasia		<b>1</b>	<b>1</b>	<b>1</b>
11. Dysplasia epiphysealis hemimelica		<b>1</b>	<b>1</b>	<b>1</b>
<b>Metabolic and Endocrine Disorders</b>				
1. Slipped capital femoral epiphysis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Ricketts	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Renal Osteodystrophy		<b>1</b>	<b>2</b>	<b>3</b>
4. Hypophosphatasia		<b>1</b>	<b>1</b>	<b>2</b>
5. Hypoparathyroidism		<b>1</b>	<b>1</b>	<b>2</b>
6. Hypothyroidism of Cretinism		<b>1</b>	<b>1</b>	<b>2</b>

<b>Circulatory Disorders</b>				
Osteonecroses				
1. Osgood Schlatter's Disease	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Kohler's Disease		<b>1</b>	<b>2</b>	<b>3</b>
3. Sever's Disease		<b>1</b>	<b>2</b>	<b>3</b>
4. Freiberg's Disease		<b>1</b>	<b>2</b>	<b>3</b>
5. Scheurmann's Disease		<b>1</b>	<b>1</b>	<b>2</b>
6. Calve's Disease		<b>1</b>	<b>1</b>	<b>2</b>
7. Blount's Disease	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
8. Legg Calve Perthes Disease	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
9. Osteochondritis Dissecans		<b>1</b>	<b>2</b>	<b>3</b>
Sickle Cell Disease		<b>1</b>	<b>1</b>	<b>2</b>
<b>Bone Tumors</b>				
1. Osteochondroma	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Multiple Cartilaginous Exostosis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Solitary enchondroma and multiple enchondromatosis		<b>1</b>	<b>2</b>	<b>3</b>
4. Parosteal chondroma		<b>1</b>	<b>1</b>	<b>2</b>
5. Benign chondroblastoma, Chondromyxoid fibroma		<b>1</b>	<b>1</b>	<b>2</b>
6. Osteoid osteoma	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Benign osteoblastoma		<b>1</b>	<b>2</b>	<b>3</b>
8. Fibrous dysplasia	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
9. Osteofibrous dysplasia of the tibia and fibula (Campanacci Syndrome)		<b>1</b>	<b>1</b>	<b>2</b>
10. Fibrous defects of bone		<b>1</b>	<b>1</b>	<b>2</b>
11. Aneurysmal bone cyst	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
12. Unicameral bone cyst	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
13. Histiocytosis X		<b>1</b>	<b>2</b>	<b>3</b>
14. Neurofibromatosis (Von Reckling Hausen's Disease)		<b>1</b>	<b>2</b>	<b>3</b>
15. Adamantinoma		<b>1</b>	<b>1</b>	<b>2</b>
16. Osteogenic Sarcoma	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
17. Ewing's Sarcoma	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
18. Chondroblastoma	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
19. Fibrosarcoma and Malignant Fibrous Histiocytoma		<b>1</b>	<b>2</b>	<b>3</b>
20. Metastatic tumors of bone	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Infections of Bone and Joint</b>				
1. Osteomyelitis - Acute and Chronic		<b>3</b>	<b>4</b>	<b>4</b>
2. Acute pyogenic arthritis		<b>3</b>	<b>4</b>	<b>4</b>

3. Tuberculous arthritis		<b>3</b>	<b>4</b>	<b>4</b>
4. Lyme arthritis		<b>1</b>	<b>1</b>	<b>1</b>
5. Gonococcal and syphilitic arthritis		<b>1</b>	<b>1</b>	<b>1</b>
6. Arthritis associated with viral disease		<b>1</b>	<b>1</b>	<b>1</b>
7. Fungus infections of joints		<b>1</b>	<b>1</b>	<b>1</b>
<b>Noninfectious Afflictions of Joints</b>				
1. Transient synovitis of the hip		<b>3</b>	<b>3</b>	<b>4</b>
2. Rheumatoid arthritis		<b>3</b>	<b>3</b>	<b>4</b>
3. Hemophilic arthropathy	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Neuropathic joint disease (Charcot joint)	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Discoid meniscus	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Popliteal cyst	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Recurrent subluxation/dislocation of the patella		<b>1</b>	<b>2</b>	<b>3</b>
<b>Afflictions of the Neuromuscular System</b>				
1. Cerebral palsy		<b>1</b>	<b>2</b>	<b>3</b>
2. Myelomeningocoele		<b>1</b>	<b>2</b>	<b>3</b>
3. Spinal dysraphism		<b>1</b>	<b>1</b>	<b>2</b>
4. Diastematomyelia		<b>1</b>	<b>1</b>	<b>2</b>
5. Spina bifida occulta		<b>2</b>	<b>2</b>	<b>3</b>
6. Spinal muscular atrophy		<b>1</b>	<b>1</b>	<b>2</b>
7. Poliomyelitis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
8. Friedreich's ataxia		<b>1</b>	<b>1</b>	<b>1</b>
9. Peroneal muscular atrophy (Charcot-Marie-Tooth Disease)		<b>1</b>	<b>1</b>	<b>1</b>
10. Acute polyradiculoneuritis (Guillain-Barre Syndrome)		<b>1</b>	<b>2</b>	<b>3</b>
11. Obstetrical brachial plexus palsy		<b>1</b>	<b>2</b>	<b>3</b>
12. Progressive muscular dystrophy		<b>1</b>	<b>2</b>	<b>3</b>
13. Myotonia congenita		<b>1</b>	<b>1</b>	<b>1</b>
14. Myositis ossificans progressiva		<b>1</b>	<b>1</b>	<b>1</b>
15. Progressive systemic sclerosis		<b>1</b>	<b>1</b>	<b>1</b>
16. Dermatomyositis		<b>1</b>	<b>1</b>	<b>1</b>
<b>The Child's Spine</b>				
1. Nonstructural scoliosis		<b>1</b>	<b>2</b>	<b>3</b>
2. Congenital scoliosis		<b>1</b>	<b>2</b>	<b>3</b>
3. Congenital kyphosis		<b>1</b>	<b>2</b>	<b>3</b>

4. Spondylolisthesis of the cervical spine		<b>1</b>	<b>1</b>	<b>2</b>
5. Isthmic and dysplastic spondylolisthesis		<b>1</b>	<b>2</b>	<b>3</b>
6. Idiopathic scoliosis		<b>2</b>	<b>3</b>	<b>4</b>
7. Infantile idiopathic scoliosis		<b>1</b>	<b>1</b>	<b>2</b>
8. Juvenile idiopathic scoliosis		<b>1</b>	<b>1</b>	<b>2</b>
9. Paralytic scoliosis		<b>1</b>	<b>2</b>	<b>2</b>
10. Scoliosis in neurofibromatosis		<b>1</b>	<b>2</b>	<b>2</b>
11. Intervertebral disc calcification		<b>1</b>	<b>2</b>	<b>2</b>
12. Discitis		<b>2</b>	<b>3</b>	<b>4</b>
13. Herniated intervertebral disc		<b>2</b>	<b>3</b>	<b>4</b>
14. Slipped vertebral apophysis		<b>1</b>	<b>1</b>	<b>2</b>
<b>Fractures and Dislocations in Children</b>				
1. Acute fractures and dislocations in specific bones and joints of the upper and lower limbs		<b>2</b>	<b>3</b>	<b>4</b>
2. Fractures involving the physis		<b>2</b>	<b>3</b>	<b>4</b>
3. Incomplete fractures		<b>2</b>	<b>3</b>	<b>4</b>
4. Neglected and malunited fractures or dislocations		<b>2</b>	<b>3</b>	<b>4</b>
5. Obstetrical or birth injuries		<b>1</b>	<b>2</b>	<b>3</b>
6. Fractures in child abuse		<b>2</b>	<b>3</b>	<b>4</b>
7. Stress fractures		<b>2</b>	<b>3</b>	<b>4</b>

**Table 5.** Applied Clinical Knowledge: Hand Surgery

<b>Applied Clinical Knowledge</b>	Year Level 1	Year Level 2	Year Level 3	Year Level 4
<b>Hand Surgery</b>				
<b>Basic Science</b>				
<b>Anatomy</b>				
1. Wrist, MCP, PIP, DIP joints and the CMC joint of the thumb	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Flexor and extensor mechanism of the fingers including interaction between extrinsic and intrinsic mechanism	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Nerve supply of the hand	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Vascular system of the hand	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Closed compartments of forearm and hand	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Pathology</b>				
1. Understanding of the special circumstances associated with swelling and the effects of rising pressure in a closed compartment secondary to infection and injury	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Appreciation of the role of edema as a cause of fibrosis and permanent stiffness	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>
3. Tendon injury and healing	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>
4. Nerve injury and healing	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>
5. Appreciation of the imbalances and deformities associated with inflammatory arthritis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Congenital hand disorders	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
7. Hand neoplasms	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
<b>Clinical Assessment</b>				
1. History and examination of hand and wrist in the assessment of tendons, distal radioulnar and radiocarpal joints	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Ability to elicit median, ulnar and radial nerve function and disorders	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Recognition of patterns of presentation of common compressive neuropathies of the upper extremity, including brachial plexus problems	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Assessment of intrinsic and extrinsic motors in digits and recognition of common deformities and deficiencies	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Awareness of cumulative trauma disorders and work-related hand problems	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Ability to examine and assess common rheumatoid hand deformities	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

<b>Investigations</b>				
1. Knowledge and interpretation of plain and stress views of the hand and wrist	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Awareness of the role of MRI, bone scan, arthrography and arthroscopy in the assessment of hand problems	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Treatment</b>				
1. Knowledge of a strategy of management various arthritic conditions of the hand	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Understanding of the role of soft tissue reconstruction, joint fusion, interposition and excision arthroplasty in the treatment of hand and wrist arthritis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Knowledge of the management of the common stenosing tenosynovitis of the hand and wrist (e.g., trigger finger, De Quervain's)	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Knowledge of the principles of treatment of common flexor and extensor tendon injuries and of the common surgical approaches to the digital flexor and extensor compartments	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Management of metacarpal and phalangeal fractures	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Familiarity with the surgical treatment of Dupuytren's contracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Awareness of the principles of tendon transfer for the reconstruction of radial, ulnar and median nerve palsy and familiarity with simple transfers	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
8. Knowledge of splinting techniques and rehabilitation principles	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
9. Ability to plan management for finger tip injuries and undertake closed management	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
10. Knowledge of surgical approach to digits with particular regard to the restoration of function and prevention of stiffness	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
11. Knowledge of the levels for digital amputation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
12. Injuries of ulnar collateral ligament of thumb	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
13. Dislocations of the carpal bones and carpal instability	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
14. Knowledge of closed and operative options of treatment for intra-articular distal radius fractures and common carpal injuries including scaphoid nonunion	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
15. Familiarity with the surgical treatment of common compressive neuropathy of the upper extremity	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
16. Ability to manage common hand infections	<b>1</b>	<b>3</b>	<b>3</b>	<b>4</b>

**Table 6.** Applied Clinical Knowledge: Spine

<b>Applied Clinical Knowledge</b>	Year Level 1	Year Level 2	Year Level 3	Year Level 4
<b>Spine</b>				
<b>Basic Science</b>				
<b>Anatomy</b>				
1. Development of the spine, spinal cord and nerve roots	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Surgical anatomy of the cervical, thoracic and lumbosacral spine	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Anterior and posterior surgical approaches to the spine at various levels		<b>1</b>	<b>2</b>	<b>3</b>
<b>Biomechanics</b>				
1. Basic knowledge of the biomechanics of the cervical and lumbosacral spines		<b>1</b>	<b>2</b>	<b>3</b>
2. An understanding of the biomechanics of spinal instability as applied to trauma, deformity, tumors, infection and degenerative conditions		<b>1</b>	<b>2</b>	<b>3</b>
3. A knowledge of the basic biomechanics of spinal instrumentation		<b>1</b>	<b>2</b>	<b>3</b>
<b>Investigation</b>				
1. A thorough knowledge of the basic investigations required in spinal surgery, specifically blood tests, plain X-rays, discography, EMG-NCV, CT and MRI	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>
2. A thorough knowledge of how the above investigations contribute to the diagnosis and management of each of the major areas of spinal pathologies	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Treatment: Non-operative</b>				
1. A knowledge of the non-surgical methods for the treatment of low back pain, sciatica, claudication, neck pain, spinal deformity, instability, neoplasms		<b>1</b>	<b>2</b>	<b>3</b>
2. Application of the following modalities: analgesics and NSAIDs, physical therapy modalities, pain management referral, bracing, use of radiotherapy and chemotherapy		<b>1</b>	<b>2</b>	<b>3</b>
<b>Treatment: Surgical</b>				
1. A sound knowledge of the indications for and operative surgical management of the acute herniated lumbar intervertebral disc, spinal stenosis, lumbar spinal instability due to spondylolysis/listhesis		<b>1</b>	<b>2</b>	<b>4</b>
2. A knowledge of the indications for, and operative surgical management of the acutely prolapsed cervical disc, cervical stenosis, spinal injury and the surgery of spinal infection		<b>1</b>	<b>2</b>	<b>4</b>
3. A basic knowledge of the surgery of spinal deformity and tumors of the spine		<b>1</b>	<b>2</b>	<b>3</b>

Upon completion of the core curriculum in Orthopaedic Spine Surgery, the resident must be able to define and discuss the pathophysiology, incidence, types, clinical characteristics, diagnostic features, principles of management and prognosis of the following:				
<b>Congenital Anomalies of the Spine</b>				
1. Basilar impression		2	3	3
2. Congenital atlantoaxial instability		2	3	3
3. Atlanto-occipital fusion		2	3	3
4. Agenesis or hypoplasia of odontoid		2	3	3
5. Congenital laxity of transverse atlantal ligament		2	3	3
6. Klippel-Feil syndrome		2	3	3
7. Congenital muscular torticollis		2	3	3
8. Spine deformities in myelodysplasia		2	3	3
9. Congenital scoliosis	1	2	3	4
10. Congenital lumbar kyphosis		2	3	3
11. Diastematomyelia		2	3	3
12. Spondylolysis and spondylolisthesis in children		2	3	3
<b>Spine Deformity with Skeletal Dysplasia</b>				
1. Achondroplasia	1	2	3	3
2. Spondyloepiphyseal dysplasia	1	2	3	3
3. Diastrophic dysplasia	1	2	3	3
4. Hypochondroplasia	1	2	3	3
5. Kniest dysplasia	1	2	3	3
6. Larsen's syndrome	1	2	3	3
<b>Scoliosis and Kyphosis</b>				
1. Idiopathic scoliosis	1	2	3	4
2. Neuropathic scoliosis	1	2	3	4
3. Myopathic scoliosis	1	2	3	4
4. Congenital scoliosis	1	2	3	4
5. Neurofibromatosis	1	2	3	4
6. Mesenchymal disorders (Marfan's, Ehlers-Danlos)	1	2	3	3
7. Scheuermann's kyphosis	1	2	3	3
8. Post-irradiation scoliosis or kyphosis	1	2	3	3
<b>Degenerative Disorders of the Spine</b>				
1. Cervical disc disease	1	2	3	4
2. Thoracic disc disease	1	2	3	4
3. Lumbar disc disease	1	2	3	4

4. Low back pain	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Herniated cervical disc	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Herniated lumbar disc	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Ankylosing spondylitis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
8. Ossification of the posterior longitudinal ligament	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Infections of the Spine and Associated Structures</b>				
1. Retropharyngeal abscess	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Psoas abscess	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Vertebral osteomyelitis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Tuberculous spondylitis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Fungal spondylitis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Metabolic Bone Disease Affecting the Spine</b>				
1. Osteoporosis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Osteomalacia and Rickettsia	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Hyperparathyroidism	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Tumors of the Spine</b> (Refer to Tumors in Adult Orthopaedics Section)				
1. Benign tumors	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Malignant tumors	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Metastatic tumors	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Spine and Spinal Cord Injury</b>				
1. Cervical spine subluxation, dislocation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Compression fractures in all levels	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Thoracic spine subluxation, dislocation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Lumbar spine subluxation, dislocation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Compression fractures	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Cauda equina syndrome	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Conus medullaris syndrome	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

## Applied Clinical Skills: Core Competencies

The core competencies indicated in Table 7 below considers each procedures as a whole from the first encounter with the patient pre-operatively to their post-operative management and onwards to discharge. The list of skills which the residents are expected to develop competence are listed under each core domain below.

**Table 7.** Applied Clinical Skills: Core Competencies

<b>Applied Clinical Skills</b>	
<b>Core Competencies</b>	
<b>A. Consent</b>	
1.	Demonstrates sound knowledge of indications and contraindications including alternatives to surgery
2.	Demonstrates awareness of sequelae of non-operative and surgical management
3.	Demonstrates sound knowledge of complications of surgery
4.	Explains the perioperative process to the patient and/or next of kin and verifies their understanding
5.	Explains likely outcome and time to recovery and verifies understanding
<b>B. Pre-operative planning</b>	
1.	Demonstrates recognition of anatomical and pathological abnormalities and selects appropriate surgical strategies/techniques to deal with these
2.	Demonstrates ability to make sound choice of appropriate equipment, materials or devices taking into account appropriate investigations
3.	Checks materials, equipment and device requirements with the operating room personnel
4.	Ensures the operation site is marked where applicable
5.	Checks patient records, personally reviews investigations
<b>C. Pre-operative preparation</b>	
1.	Checks in the operating room that the consent has been obtained
2.	Gives effective briefing to the operating room team
3.	Ensures proper and safe positioning of the patient on the operating table
4.	Demonstrates careful skin preparation
5.	Demonstrates careful draping of the patient's operative field
6.	Ensures general equipment and materials are positioned safely (e.g., cautery tip and cords, catheters)
<b>D. Exposure and closure</b>	
1.	Demonstrates knowledge of optimum skin incision

2. Achieves an adequate exposure through planned dissection in the correct tissue planes and identifies all structures correctly
3. Completes a sound wound repair where appropriate
4. Protects the wound with dressings, splints and drains as appropriate
<b>E. Intra-operative Technique</b>
1. Follows an agreed, logical sequence or protocol for the procedure
2. Consistently handles tissue well with minimal damage
3. Controls bleeding promptly by an appropriate method
4. Demonstrates a sound technique of knots, sutures and/or staples
5. Uses instruments appropriately and safely
6. Proceeds at appropriate pace with economy of movement
7. Anticipates and responds appropriately to variation in anatomy
8. Deals calmly and effectively with unexpected events/complications
9. Able to direct surgical assists to efficiently carry out the procedure
10. Communicates clearly and consistently with the scrub team
11. Communicates clearly and consistently with the anesthetic team
<b>F. Post-operative Management</b>
1. Ensures the patient is transferred safely from the operating table to the recovery room bed
2. Constructs a clear operating technique, whether as outline or as a narrative
3. Records clear and appropriate post-operative instructions
4. Deals with specimen appropriately, including labeling and storage
5. Explains result of surgery, prognosis and possible outcome to relatives

## Applied Clinical Skills: Procedures

Resident trainees must make every effort (with the support of their department) to experience the scope of the whole procedures list as practicably possible. The training committee of each department must aspire that the trainees gain mastery and not just core competence of the essential procedures. The skill and procedures are assessed on the following four point scale:

Scale	Description
<b>1</b>	Has observed or familiar with
<b>2</b>	Can manage with assistance
<b>3</b>	Can manage whole but may need assistance
<b>4</b>	Competent to manage without assistance, including possible complications

In developing and improving the training program, training officers determine the grading of each procedure at a particular year level. The PBO provides the values indicated here as a general guide.

**Table 8.** Applied Clinical Skills: Trauma

<b>Applied Clinical Skills</b>	Year Level 1	Year Level 2	Year Level 3	Year Level 4
<b>Trauma</b>				
<b>Trauma General</b>				
1. Wound debridement	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>
2. Wound closure, immediate and delayed primary or secondary	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>
3. Free flap		<b>2</b>	<b>3</b>	<b>3</b>
4. Skin grafting, various thickness	<b>1</b>	<b>2</b>	<b>4</b>	<b>4</b>
5. Muscle flap	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Nerve repair	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
7. Pedicle flap		<b>1</b>	<b>2</b>	<b>3</b>
8. Removal of external fixator	<b>2</b>	<b>4</b>	<b>4</b>	<b>4</b>
9. Removal of foreign body from skin/subcutaneous tissue	<b>2</b>	<b>4</b>	<b>4</b>	<b>4</b>
10. Removal of K-wires or skeletal traction	<b>2</b>	<b>4</b>	<b>4</b>	<b>4</b>
<b>Shoulder</b>				
1. Closed reduction of shoulder dislocation	<b>2</b>	<b>4</b>	<b>4</b>	<b>4</b>
2. Open reduction with soft tissue repair for shoulder dislocation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Shoulder</b>				
3. ORIF of acromioclavicular joint dislocation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. ORIF of proximal humerus fracture	<b>1</b>	<b>3</b>	<b>4</b>	<b>4</b>
5. ORIF of glenoid fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Humerus</b>				
1. Non-surgical strategies for treatment of humeral shaft fractures	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>
2. ORIF for diaphyseal fracture, plate	<b>1</b>	<b>3</b>	<b>4</b>	<b>4</b>
3. ORIF for diaphyseal fracture, nail	<b>1</b>	<b>2</b>	<b>4</b>	<b>4</b>
4. ORIF with bone grafting for nonunion of diaphyseal fracture	<b>1</b>	<b>2</b>	<b>4</b>	<b>4</b>
<b>Elbow</b>				
1. Closed reduction of fracture/dislocation, ulna-humerus articulation	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>
2. ORIF of fracture/dislocation, ulna-humerus articulation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. ORIF of radial head	<b>1</b>	<b>2</b>	<b>4</b>	<b>4</b>
4. ORIF of supracondylar fractures	<b>1</b>	<b>3</b>	<b>4</b>	<b>4</b>
5. Closed pinning of supracondylar fractures	<b>1</b>	<b>3</b>	<b>4</b>	<b>4</b>
<b>Forearm</b>				
1. Fasciotomy for compartment syndrome	<b>1</b>	<b>2</b>	<b>4</b>	<b>4</b>

Fracture of Distal Radius:				
1. Strategies for non-operative management	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. External Fixation	<b>1</b>	<b>2</b>	<b>4</b>	<b>4</b>
3. ORIF	<b>1</b>	<b>2</b>	<b>4</b>	<b>4</b>
4. Percutaneous fixation	<b>1</b>	<b>2</b>	<b>4</b>	<b>4</b>
Fracture, shaft of radius/ulna				
1. Strategies for non-operative management	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>
2. External Fixation	<b>1</b>	<b>2</b>	<b>4</b>	<b>4</b>
3. ORIF	<b>1</b>	<b>2</b>	<b>4</b>	<b>4</b>
<b>Pelvis</b>				
1. External fixation application for fracture/dislocation		<b>1</b>	<b>2</b>	<b>3</b>
2. ORIF for fracture/dislocation		<b>1</b>	<b>2</b>	<b>3</b>
3. Acetabular fracture ORIF	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Hip</b>				
Dislocation				
1. Closed treatment	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>
2. ORIF	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Intracapsular fracture				
1. ORIF	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Hemiarthroplasty	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Total Hip Arthroplasty	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Extracapsular fracture				
1. ORIF, Dynamic Hip Screw/blade-plate fixation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. ORIF, Intramedullary fixation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Hemiarthroplasty	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Total Hip Arthroplasty	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Femur</b>				
Closed shaft fractures				
1. Traction or spica in child	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>
2. Intramedullary nailing	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Plate and screw fixation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Fasciotomy for compartment syndrome	<b>1</b>	<b>3</b>	<b>3</b>	<b>4</b>
Subtrochanteric fracture				
1. Intramedullary fixation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Blade-plate fixation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

Subtrochanteric fracture				
1. Intramedullary fixation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Blade-plate fixation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Supracondylar fracture				
1. Dynamic Compression Screw/Blade Plate Device	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Intramedullary fixation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Knee</b>				
1. Arthroscopy for acute injuries	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Acute ligament repair	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. ORIF for intra-articular distal femur fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Closed treatment of patella dislocation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Open treatment of patella dislocation	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. ORIF, patella	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Quadriceps tendon repair	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
8. ORIF, tibial plateau fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
9. Arthroscopically assisted fixation of tibial plateau fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
10. External Fixation, tibial plateau fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Tibia and Fibula</b>				
1. External fixation for diaphyseal fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Intramedullary nailing for diaphyseal fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Manipulation under anesthesia + POP for diaphyseal fracture	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Plating, tibial shaft	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Fasciotomy for compartment syndrome	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Tibial nonunion				
1. Circular frame management	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Intramedullary nailing w/ or w/o bone grafting	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Ankle</b>				
Fracture/dislocation				
1. Manipulation under anesthesia + POP	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. ORIF	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Pilon Fracture</b>				
1. ORIF	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Circular Frame Management	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Tendon of Achilles Rupture</b>				
1. Open repair	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Percutaneous Technique	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

<b>Foot</b>				
<b>Calcaneus Fracture</b>				
1. Manipulation under anesthesia + POP	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Manipulation under anesthesia + Pins + POP	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. ORIF	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Talar/Sub-talar/Midtarsal Fracture/Dislocation</b>				
1. Manipulation under anesthesia + POP	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Manipulation under anesthesia + Pins + POP	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. ORIF	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Metatarsal/Phalangeal Fracture</b>				
1. Manipulation under anesthesia + POP	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Manipulation under anesthesia + Pins + POP	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. ORIF	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

**Table 9.** Applied Clinical Skills: Adult Orthopaedics

<b>Applied Clinical Skills</b>	Year Level 1	Year Level 2	Year Level 3	Year Level 4
<b>Adult Orthopaedics</b>				
<b>Elective, General (site non-specific)</b>				
1. Aspiration/injection point	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Needle/trocar biopsy of bone	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Benign tumor excision, soft tissue	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
4. Biopsy of bone, open	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Bone cyst curettage with or without bone grafting	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Epiphysiodesis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Malignant tumor resection	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
8. Debridement, Curettage, Sequestrectomy	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Shoulder</b>				
1. Acromioclavicular joint excision – arthroscopic/open	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>
2. Acromioclavicular joint reconstruction	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>
3. Acromioplasty/Subacromial decompression – arthroscopic/open	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>
4. Anterior repair for instability - arthroscopic/open	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>
5. Rotator Cuff Repair, open/arthroscopic w/ or w/o acromioplasty	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>
6. Partial shoulder replacement	<b>1</b>	<b>1</b>	<b>3</b>	<b>4</b>

7. Total shoulder replacement	1	1	2	3
8. Arthrodesis	1	2	3	4
9. Arthrotomy	1	2	3	4
10. Forequarter Amputation	1	2	3	4
<b>Elbow</b>				
1. Arthrolysis, open/arthroscopic	1	2	3	3
2. Arthroscopy, diagnostic and	1	2	3	3
3. Arthroscopy, therapeutic	1	2	3	3
4. Arthrotomy, elbow	1	3	4	4
5. Excision, radial head	1	2	4	4
6. Tennis/golfer elbow release	1	2	3	3
7. Ulnar nerve decompression/transposition	1	2	3	4
8. Above elbow amputation	1	2	3	4
<b>Hip/Pelvis</b>				
1. Arthrodesis	1	2	3	4
2. Arthroscopy, diagnostic	1	2	2	3
3. Arthroscopy, therapeutic	1	2	2	3
4. Arthrotomy	1	2	3	4
5. Excision arthroplasty (Girdlestone)	1	2	3	4
6. Primary Total hip replacement				
• Cemented	1	2	3	4
• Uncemented	1	2	3	4
• Hybrid	1	2	3	4
7. Revision Total hip replacement	1	2	2	3
8. Partial hip replacement	1	2	3	4
9. Core decompression	1	2	3	4
10. Vascularized pedicle grafting for osteonecrosis	1	2	3	3
11. Hip disarticulation	1	2	3	4
12. Hemipelvectomy	1	2	3	3
<b>Femur</b>				
1. Amputation, above knee	1	2	3	4
2. Lengthening	1	2	3	4
3. Corrective osteotomy	1	2	3	4
<b>Knee</b>				
1. ACL reconstruction, all variants	1	2	3	3
2. Arthroscopy, diagnostic	1	2	3	4
3. Arthroscopic retinacular release	1	2	3	4

4. Arthroscopic meniscectomy	1	2	3	4
5. Arthroscopic removal of loose bodies	1	2	3	4
6. Arthroscopic synovectomy	1	2	3	4
7. Osteotomy, distal femur and proximal tibia	1	2	3	4
8. Patellar realignment	1	2	3	4
9. Patellar resurfacing	1	2	3	4
10. Primary TKR	1	2	3	4
11. Revision TKR	1	2	3	3
12. Knee disarticulation	1	2	3	4
13. Arthrotomy	1	2	3	4
<b>Tibia and Fibula</b>				
1. Amputation below knee	1	2	3	4
2. Lengthening	1	2	3	4
3. Fasciotomy	1	2	3	4
<b>Ankle</b>				
1. Arthrodesis	1	2	3	4
2. Arthroplasty	1	2	2	3
3. Arthroscopy, diagnostic	1	2	3	3
4. Arthroscopy, therapeutic	1	2	3	3
5. Arthrotomy	1	2	3	4
6. Repair of attritional ruptures of tendons	1	2	3	3
7. Lengthening of the Tendon of Achilles	1	2	3	4
<b>Foot</b>				
1. Amputation, toe/ray	1	2	3	4
2. Calcaneal osteotomy	1	2	3	4
3. Hallux valgus, all variants	1	2	3	4
4. Arthrodesis	1	2	3	4
5. Ingrown toenail operation	1	2	3	4
6. Tendon transfers	1	2	3	4

**Table 10.** Applied Clinical Skills: Pediatric Orthopaedics

<b>Applied Clinical Skills</b>	Year Level 1	Year Level 2	Year Level 3	Year Level 4
<b><i>Pediatric Orthopaedics</i></b>				
<b>Congenital Anomalies of the Lower Extremities</b>				
1. Amputation of extra toe		<b>2</b>	<b>3</b>	<b>4</b>
2. Release of syndactyly		<b>1</b>	<b>2</b>	<b>3</b>
3. Ray amputation for macrodactyly		<b>2</b>	<b>3</b>	<b>4</b>
4. Ponseti casting technique for clubfoot		<b>3</b>	<b>4</b>	<b>4</b>
5. Posteromedial release for clubfoot (Cincinnati, Modified McKay, Turco)		<b>1</b>	<b>2</b>	<b>3</b>
6. Surgical treatment for resistant clubfoot (Dwyer osteotomy, Evans osteotomy, triple arthrodesis, talectomy)		<b>1</b>	<b>1</b>	<b>1</b>
7. Release of circumferential constricting band		<b>2</b>	<b>3</b>	<b>4</b>
8. Serial casting for congenital hyperextension of the knee		<b>2</b>	<b>3</b>	<b>4</b>
9. Capsular release and quadriceps lengthening of congenital knee dislocation		<b>1</b>	<b>1</b>	<b>1</b>
10. Lateral release and medial placentation and patellar tendon transfer for congenital dislocation of the patella		<b>1</b>	<b>1</b>	<b>2</b>
11. Rotation plasty for proximal femoral focal deficiency		<b>1</b>	<b>1</b>	<b>1</b>
12. Epiphysiodesis for limb length discrepancy		<b>1</b>	<b>2</b>	<b>2</b>
13. Ilizarov method for tibial lengthening		<b>1</b>	<b>2</b>	<b>3</b>
14. Application of Pavlik harness for CDH and DDH		<b>2</b>	<b>3</b>	<b>4</b>
15. Arthrography, adductor tenotomy, traction, closed reduction and application of hip spica for CDH and DDH		<b>1</b>	<b>2</b>	<b>2</b>
16. Varus derotation osteotomy of the femur, pelvic osteotomies for DDH (Salter, Pemberton, Dega, Chiari)		<b>1</b>	<b>1</b>	<b>1</b>
<b>Congenital Anomalies of the Upper Extremities</b>				
1. Unipolar or bipolar release of congenital muscular torticollis		<b>1</b>	<b>2</b>	<b>3</b>
2. Open reduction and autogenous iliac crest bone grafting for congenital pseudoarthrosis of the clavicle		<b>1</b>	<b>2</b>	<b>2</b>
3. Radial and ulnar osteotomies for correction of congenital radioulnar synostosis		<b>1</b>	<b>1</b>	<b>1</b>
<b>Osteochondrosis, Epiphysitis and Miscellaneous Afflictions</b>				
1. Insertion of bone pegs		<b>1</b>	<b>2</b>	<b>2</b>
2. Excision of ununited tibial tuberosity		<b>1</b>	<b>2</b>	<b>3</b>
3. Innominate osteotomy		<b>1</b>	<b>1</b>	<b>1</b>
4. Lateral shelf procedure		<b>1</b>	<b>1</b>	<b>1</b>

5. Arthrodiastasis		1	1	1
6. Cheilectomy		1	1	1
7. Trochanteric advancement		1	1	1
8. Greater trochanter epiphysiodesis		1	2	2
9. Synovectomy of the knee		3	4	4
10. Open ankle synovectomy		3	4	4
11. Metaphyseal osteotomy		1	2	2
12. Intraepiphyseal osteotomy		1	1	1
13. Chevron osteotomy		1	2	3
14. Epiphyseal and metaphyseal osteotomy		1	1	1
15. Intraepiphyseal osteotomy		1	1	1
16. Osteotomy and medullary nailing		2	3	4
17. Bone bridge resection		1	1	1
18. Physeal bar resection		1	1	1
<b>Cerebral Palsy and its Sequelae</b>				
1. Selective posterior rhizotomy		1	1	1
2. Adductor tenotomy and release		2	3	4
3. Iliopsoas recession		1	2	2
4. Iliopsoas release at lesser trochanter		1	2	2
5. Combined one stage correction of spastic dislocated hip		1	1	1
6. Proximal femoral resection		1	2	2
7. Hip arthrodesis		1	2	3
8. Fractional lengthening of hamstring tendons		2	3	4
9. Combined hamstring lengthening, posterior capsular release, and quadriceps shortening		1	1	1
10. Distal transfer of rectus femoris		1	1	1
11. Open lengthening of the Achilles tendon		3	4	4
12. Z-plasty lengthening of the Achilles tendon		3	4	4
13. Percutaneous lengthening of the Achilles tendon		3	4	4
14. Lengthening of the triceps surae		3	4	4
15. Z-plasty lengthening of the posterior tibial tendon		1	1	1
16. Step-cut lengthening of the posterior tibial tendon		1	1	1
17. Musculotendinous recession of the posterior tibial tendon		1	1	1
18. Split posterior tibial tendon transfer		1	1	1
19. Split anterior tibial tendon transfer		1	1	1
20. Osteotomy of the calcaneus		1	1	1
21. Medial displacement osteotomy of the calcaneus		1	1	1

22. Subtalar arthrodesis		<b>1</b>	<b>1</b>	<b>1</b>
23. Crescentic osteotomy of the calcaneus		<b>1</b>	<b>1</b>	<b>1</b>
24. Correction of flexible forefoot adductus		<b>1</b>	<b>1</b>	<b>1</b>
25. Release of elbow flexion contracture		<b>1</b>	<b>2</b>	<b>2</b>
26. Correction of talipes equinovarus		<b>1</b>	<b>2</b>	<b>3</b>
27. Release of internal rotation contracture of the shoulder		<b>1</b>	<b>1</b>	<b>1</b>
<b>Paralytic Disorders</b>				
1. Posterior transfer of the anterior tibial tendon		<b>1</b>	<b>1</b>	<b>1</b>
2. Dorsal bunion treatment		<b>1</b>	<b>2</b>	<b>2</b>
3. Subtalar arthrodesis		<b>1</b>	<b>1</b>	<b>2</b>
4. Triple arthrodesis		<b>1</b>	<b>2</b>	<b>1</b>
5. Correction of a cavus deformity		<b>1</b>	<b>2</b>	<b>2</b>
6. Anterior transfer of the posterior tibial tendon		<b>1</b>	<b>1</b>	<b>1</b>
7. Split transfer of the anterior tibial tendon		<b>1</b>	<b>1</b>	<b>1</b>
8. Peroneal tendon transfer		<b>1</b>	<b>1</b>	<b>1</b>
9. Tendon transfer of peroneus longus, flexor digitorum longus, flexor/ extensor hallucis longus tendons		<b>1</b>	<b>1</b>	<b>1</b>
10. Tenodesis of the Achilles tendon		<b>1</b>	<b>1</b>	<b>1</b>
11. Posterior transfer of the peroneus longus, peroneus brevis and posterior tibial tendon		<b>1</b>	<b>1</b>	<b>1</b>
12. Posterior transfer of the posterior tibial, peroneus longus and flexor hallucis longus tendons		<b>1</b>	<b>1</b>	<b>1</b>
13. Transfer of the biceps femoris and semitendinosus tendons		<b>1</b>	<b>1</b>	<b>1</b>
14. Osteotomy of the tibia for genu recurvatum		<b>1</b>	<b>1</b>	<b>1</b>
15. Triple tenodesis for genu recurvatum		<b>1</b>	<b>1</b>	<b>1</b>
16. Complete release of a flexion, abduction, and external rotation contracture		<b>1</b>	<b>1</b>	<b>1</b>
17. Complete release of the muscles from the iliac wing and transfer of the iliac crest		<b>1</b>	<b>1</b>	<b>1</b>
18. Transfer of the external oblique for paralysis of the gluteus medius muscle		<b>1</b>	<b>1</b>	<b>1</b>
19. Posterior transfer of the iliopsoas for paralysis of the gluteus medius and maximus muscles		<b>1</b>	<b>1</b>	<b>1</b>
20. Trapezius transfer for paralysis of the deltoid		<b>1</b>	<b>1</b>	<b>1</b>
21. Medial displacement osteotomy of the calcaneus		<b>1</b>	<b>1</b>	<b>1</b>
22. Transfer of latissimus dorsi or teres major or both for paralysis of the subscapularis or infraspinatus		<b>1</b>	<b>1</b>	<b>1</b>
23. Flexorplasty		<b>1</b>	<b>1</b>	<b>1</b>
24. Anterior transfer of the triceps		<b>1</b>	<b>1</b>	<b>1</b>

25. Transfer of the pectoralis major tendon		1	1	1
26. Transfer of the latissimus dorsi muscle		1	1	1
27. Rerouting of the biceps tendon for supination deformities of the forearm		1	1	1
28. V-O procedure		1	1	1
29. Anterolateral release		1	1	1
30. Transfer of the anterior tibial tendon to the calcaneus		1	1	1
31. Screw epiphysiodesis		1	2	2
32. Supramalleolar varus derotation osteotomy		1	1	1
33. Radical flexor release		1	1	1
34. Anterior hip release		1	2	3
35. Fascial release		1	1	1
36. Adductor release		3	4	4
37. Transfer of the adductors, external oblique and tensor fascia lata		1	1	1
38. Proximal femoral resection and interposition arthroplasty		1	1	1
39. Pelvic osteotomy		1	1	1
40. Posterior release of an elbow extension contracture		1	1	2
41. Anterior shoulder release		1	2	2
42. Rotational osteotomy of the humerus		1	2	2
43. Release of internal rotation contracture and transfer of the latissimus dorsi and teres major		1	1	1
<b>Neuromuscular Disorders</b>				
1. Open muscle biopsy		2	3	4
2. Percutaneous muscle biopsy		2	3	4
3. Percutaneous release of hip flexion and abduction contractures		1	2	2
4. Transfer of the posterior tibial tendon to the dorsum of the base of the 2nd metatarsal		1	1	1
5. Scapulothoracic fusion		1	1	1
6. Radical plantar-medial release and dorsal closing wedge		1	1	1
7. Transfer of the extensor hallucis longus tendon for claw toe deformity		1	2	3
8. Transfer of the extensor tendons to the middle cuneiform		1	1	1
<b>Fractures and Dislocations in Children</b>				
1. Open reduction and internal fixation of physeal fractures of phalanges and metacarpals		3	4	4
2. Closed intramedullary nailing of fractures of the middle third of the forearm		3	4	4
3. Open reduction of old Monteggia fracture in children		3	4	4
4. Osteotomy of the ulna and over correction of angular deformity		1	2	3
5. Closed and open reduction of radial neck fractures		2	3	4

6. Open reduction of untreated (chronic) posterior dislocation of the elbow in children		<b>3</b>	<b>4</b>	<b>4</b>
7. Open reduction and internal fixation of lateral condylar fractures		<b>3</b>	<b>4</b>	<b>4</b>
8. Open reduction and internal fixation with bone grafting for nonunion or minimally displaced fractures		<b>3</b>	<b>4</b>	<b>4</b>
9. Osteotomies for established cubitus valgus secondary to nonunion or growth arrest		<b>3</b>	<b>4</b>	<b>4</b>
10. Displaced or entrapped medial epicondyle		<b>2</b>	<b>3</b>	<b>4</b>
11. Open reduction and internal fixation of medial condylar fractures		<b>3</b>	<b>4</b>	<b>4</b>
12. Closed reduction and percutaneous pinning of supracondylar fracture		<b>3</b>	<b>4</b>	<b>4</b>
13. Lateral closing wedge osteotomy		<b>3</b>	<b>4</b>	<b>4</b>
14. Oblique osteotomy with derotation		<b>1</b>	<b>2</b>	<b>3</b>
15. Open reduction and internal fixation of separation of the entire distal humeral epiphysis		<b>3</b>	<b>4</b>	<b>4</b>
16. Closed reduction and casting or percutaneous pinning of fractures of the shaft and proximal end of the humerus		<b>3</b>	<b>4</b>	<b>4</b>
17. Closed reduction and percutaneous pinning for slipped capital femoral epiphysis		<b>3</b>	<b>4</b>	<b>4</b>
18. Open reduction and internal fixation of hip fractures		<b>3</b>	<b>4</b>	<b>4</b>
19. Valgus subtrochanteric osteotomy for acquired coxa vara or nonunion		<b>1</b>	<b>1</b>	<b>1</b>
20. Cuneiform osteotomy of the femoral neck		<b>1</b>	<b>1</b>	<b>1</b>
21. Spica cast application for femoral shaft fractures		<b>3</b>	<b>4</b>	<b>4</b>
22. Flexible intramedullary nail fixation		<b>3</b>	<b>4</b>	<b>4</b>
23. Closed or open reduction of fractures of the distal femoral physis		<b>3</b>	<b>4</b>	<b>4</b>
24. Open reduction and internal fixation of tibial tuberosity fracture		<b>2</b>	<b>3</b>	<b>4</b>
25. Flexible titanium nailing of middle and distal tibial shaft fractures		<b>3</b>	<b>4</b>	<b>4</b>
26. Open reduction and internal fixation of distal tibial and fibular epiphyseal fractures		<b>3</b>	<b>4</b>	<b>4</b>
27. Open reduction and internal fixation of triplane fractures		<b>2</b>	<b>3</b>	<b>4</b>
28. Open reduction and internal fixation of Tillaux fracture		<b>2</b>	<b>3</b>	<b>4</b>
29. Excision of osteochondral fragments of the talus		<b>2</b>	<b>3</b>	<b>4</b>

**Table 11.** Applied Clinical Skills: Hand

<b>Applied Clinical Skills</b>	Year Level 1	Year Level 2	Year Level 3	Year Level 4
<b>Hand</b>				
<b>Trauma</b>				
<b>Wrist</b>				
Carpal fracture/dislocation				
1. Manipulation under anesthesia with POP	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Manipulation under anesthesia with percutaneous wires	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. ORIF	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Scaphoid fracture				
1. Strategies for non-operative management	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Manipulation under anesthesia with percutaneous wires	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. ORIF	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Hand</b>				
Metacarpal fractures				
1. Strategies for non-operative management	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Manipulation under anesthesia with percutaneous wires	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. ORIF	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Phalanges/IPJ/MCP fracture dislocation				
1. Strategies for non-operative management	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Manipulation under anesthesia with percutaneous wires	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. ORIF	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Various strategies for management of fingertip injuries				
<b>Infection</b>				
1. Drainage of hand abscess	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>
2. Drainage of tendon sheath	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>
Ligament Repair	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Tendon Repair</b>				
1. Extensor	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Flexor	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Upper Limb: Brachial Plexus</b>				
1. Exploration/repair/grafting		<b>1</b>	<b>2</b>	<b>3</b>

<b>Elecive</b>				
<b>Wrist</b>				
1. Arthrodesis	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Arthroscopy, diagnostic	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
3. Arthroscopy, therapeutic	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
4. Carpal tunnel release	<b>1</b>	<b>3</b>	<b>4</b>	<b>4</b>
5. De Quervain's release	<b>1</b>	<b>3</b>	<b>4</b>	<b>4</b>
6. Ganglion cyst excision	<b>1</b>	<b>3</b>	<b>4</b>	<b>4</b>
7. Excision, distal ulna	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
8. Shortening, ulna	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
9. DRUJ reconstruction	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
10. Ulnar nerve decompression	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Hand</b>				
1. Excision of cysts	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Fusion of MCPJ or IPJ	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. MCPJ or IPJ replacement	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
4. Soft tissue reconstruction	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Tendon transfers	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Trapezium excision or replacement	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
7. Trigger finger release	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
8. Trigger thumb release	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Brachial Plexus</b>				
1. Exploration/repair/grafting	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>

**Table 12.** Applied Clinical Skills: Elective

<b>Applied Clinical Skills</b>	Year Level 1	Year Level 2	Year Level 3	Year Level 4
<b>Spine</b>				
<b>General</b>				
1. Aspiration/injection point	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
2. Needle/trocar biopsy of bone	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Benign tumor excision, soft tissue	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>
4. Biopsy of bone, open	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
5. Bone cyst curettage with or without bone grafting	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
6. Malignant tumor resection	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Trauma</b>				
<b>Cervical Spine</b>				
1. Anterior decompression/fixation of fracture/dislocation		<b>1</b>	<b>2</b>	<b>3</b>
2. Application of halo/tong traction	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
3. Manipulation under anesthesia of fracture/dislocation		<b>1</b>	<b>2</b>	<b>4</b>
4. Posterior decompression/fixation of fracture/dislocation		<b>1</b>	<b>2</b>	<b>3</b>
5. Atlantoaxial fixation w/ or w/o fusion		<b>1</b>	<b>2</b>	<b>3</b>
<b>Thoracic Spine</b>				
1. Anterior decompression/fixation		<b>1</b>	<b>2</b>	<b>3</b>
2. Posterior decompression/fixation		<b>1</b>	<b>2</b>	<b>3</b>
3. Scoliosis correction, anterior release w/ or w/o instrumentation		<b>1</b>	<b>2</b>	<b>3</b>
4. Scoliosis correction, posterior fusion w/ or w/o instrumentation		<b>1</b>	<b>2</b>	<b>3</b>
<b>Lumbar Spine</b>				
1. Anterior decompression/fixation		<b>1</b>	<b>2</b>	<b>3</b>
2. Posterior decompression/fixation		<b>1</b>	<b>2</b>	<b>3</b>
<b>Elective</b>				
<b>Cervical Spine</b>				
1. Anterior decompression w/ or w/o fixation/fusion, C2-C7		<b>1</b>	<b>2</b>	<b>3</b>
2. Atlantoaxial fixation w/ or w/o fusion		<b>1</b>	<b>2</b>	<b>3</b>
3. Biopsy, cervical spine		<b>1</b>	<b>2</b>	<b>3</b>
4. Nerve root/facet joint injection, cervical spine		<b>1</b>	<b>2</b>	<b>3</b>
5. Posterior decompression w/ or w/o fixation/fusion, C2-C7		<b>1</b>	<b>2</b>	<b>3</b>

<b>Thoracic Spine</b>				
1. Anterior decompression w/ or w/o fixation/fusion		<b>1</b>	<b>2</b>	<b>3</b>
2. Posterior decompression w/ or w/o fixation/fusion		<b>1</b>	<b>2</b>	<b>3</b>
3. Biopsy, thoracic spine		<b>1</b>	<b>2</b>	<b>3</b>
4. Scoliosis correction, anterior release w/ or w/o instrumentation		<b>1</b>	<b>2</b>	<b>3</b>
5. Scoliosis correction, posterior fusion w/ or w/o instrumentation		<b>1</b>	<b>2</b>	<b>3</b>
<b>Lumbar Spine</b>				
1. Decompression of lumbar spine w/ or w/o fusion, w/ or w/o instrumentation		<b>1</b>	<b>2</b>	<b>3</b>
2. Discectomy, open or micro	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

## Attitudes

The orthopaedic resident is expected to behave in a manner which is nothing less than exemplary at all times. This portion of the syllabus outlines general aspects of behavior trainees are expected to demonstrate while in training and which they hopefully carry on into their practice.

### Good Clinical Practice

#### *Relationship with patients*

1. Keep the best interest of the patient through adherence to ethical codes in all aspects of assessment, treatment and management.
2. Show respect to all patients and their care givers.
3. Demonstrate an emphatic approach to all patients under their care.
4. Adhere to contemporary frameworks of confidentiality.
5. Be honest about outcomes, complications and consequences of care.
6. Work with patients and their care givers to develop collaborative management plans.
7. Encourage participation in the choice of care and treatment.

#### *Maintenance and improvement of performance*

1. Demonstrate a commitment to continuing professional development by keeping up to date with clinical advances throughout their career.
2. Be open to new ideas and developments that will improve patient care.
3. Routinely practice critical self-awareness and review personal clinical practice and compare with accepted standards.

### Relationship with Colleagues

1. Actively engage in maintaining a healthy, safe and productive working environment among medical and allied medical staff.
2. Demonstrate clinical leadership skills and seek to foster and encourage junior residents to develop theirs.
3. Be aware of and work within own competence level, seeking advise as necessary from others.

### Teaching and Training

1. Exhibit commitment to learning and teaching.
2. Demonstrate willingness to supervise the work of less experienced colleagues, and the sensitivity to the needs of students and junior residents.



# Appendices



## Appendix A: PBO Forms

### Master list of Forms

PBO COMMITTEE	FORM No.	FORM NAME
Accreditation	<b>AC-01</b>	Application for Accreditation
Accreditation	<b>AC-02</b>	Accreditation Information Sheet
Accreditation	<b>AC-03</b>	Annual Inspection Evaluation Sheet
Accreditation	<b>AC-04</b>	Annual Report
Accreditation	<b>AT-01</b>	Peer Assessment Tool
Accreditation	<b>AT-02</b>	Clinical Evaluation Exercise
Accreditation	<b>AT-03</b>	Case-Based Discussion
Accreditation	<b>AT-04</b>	Direct Observation of Procedural Skills in Surgery
Awards	<b>AW-01</b>	Outstanding Residents Award: CV of Applicants
Awards	<b>AW-02</b>	Outstanding Residents Award: Criteria for Judging
Examination	<b>EC-01</b>	Information Sheet: OITE/Qualifying Examination Candidates
Examination	<b>EC-02</b>	Information Sheet: Diplomate Exam Candidates
Examination	<b>EC-03</b>	Evaluation Sheet _Diplomate Part 2
Examination	<b>EC-04</b>	Evaluation Sheet _Diplomate Part 3

#### Notes:

1. The first pages of the above forms are presented in the succeeding pages and are provided here for reference. These are subject to change without prior notice.
2. The complete and current version of the forms are available for download from the PBO website ([www.pbortho.org](http://www.pbortho.org)). Check at the download page.

<b>FORM No.</b>	<b>AC-01</b>	<b>No. of Pages</b>	1
<b>FORM NAME</b>	Application for Accreditation		
<b>REMARKS</b>	For use by residency training programs applying for a new accreditation.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

**APPLICATION FOR ACCREDITATION**  
OF ORTHOPAEDIC TRAINING PROGRAMS

Form  
**AC-01**

**LETTER OF INTENT TO APPLY FOR ACCREDITATION**

I, \_\_\_\_\_, by the authority vested in me by the Governing Body / Medical Director / Chief of Hospital of \_\_\_\_\_ (Name of Hospital) hereby voluntarily apply for the accreditation of our Residency Training Program in

**ORTHOPAEDIC SURGERY**

We are fully aware that this application is on a voluntary basis, that the hospital authorities submit unconditionally for the inspection, review and survey of items pertinent to accreditation including physical plant, facilities and working staff of the hospital and that the hospital authorities are committed to abide by the decision of the Committee on Accreditation.

\_\_\_\_\_  
*Printed Name*  
*Chairman/Section Head*  
*Section/Department of Orthopedics*

\_\_\_\_\_  
*Printed Name*  
*Chairman, Department of Surgery*  
*(if applicable)*

\_\_\_\_\_  
*(Signature)*

\_\_\_\_\_  
*(Signature)*

**NOTED AND APPROVED:**

\_\_\_\_\_  
*Printed Name*  
*Chairman, Governing Board or*  
*Chief of Hospital or Medical Director*

\_\_\_\_\_  
*(Signature)*

DATE: \_\_\_\_\_  
*(mm-dd-yyyy)*

<b>FORM No.</b>	<b>AC-02</b>	<b>No. of Pages</b>	9
<b>FORM NAME</b>	Accreditation Information Sheet		
<b>REMARKS</b>	For use by institutions applying for accreditation of a new program.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

## ACCREDITATION INFORMATION SHEET

### ORTHOPAEDIC TRAINING PROGRAMS

 Form  
**AC-02**
**I. HOSPITAL DATA:**

A. Hospital : \_\_\_\_\_

Date : \_\_\_\_\_

Section Head : \_\_\_\_\_

Signature : \_\_\_\_\_

Department Chairman: \_\_\_\_\_

Signature : \_\_\_\_\_

Hospital Director : \_\_\_\_\_

Signature : \_\_\_\_\_

**B. Total Bed Capacity**

1. Private Beds : \_\_\_\_\_

2. Charity Beds : \_\_\_\_\_

3. Orthopedic Beds: \_\_\_\_\_ (Charity/Service)

**C. Directory**

Address : \_\_\_\_\_

Tel. No. : \_\_\_\_\_

Fax No. : \_\_\_\_\_

E-Mail : \_\_\_\_\_

<b>FORM No.</b>	<b>AC-03</b>	<b>No. of Pages</b>	1
<b>FORM NAME</b>	Annual Inspection Evaluation Sheet		
<b>REMARKS</b>	For use by the Board of Trustees in the evaluation of an accredited program during an annual inspection visit.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.  
**EVALUATION SHEET**  
 ANNUAL INSPECTION OF ORTHOPAEDIC TRAINING INSTITUTIONS

Form  
**AC-03**

**Institution ▶:** \_\_\_\_\_ **Date ▶:** \_\_\_\_\_

**▼ CRITERIA**

**▼ POINTS**

**I. PHYSICAL PLANT (10 pts)**

OR Facilities, C-arm, Ortho beds, Ancillary services/facilities Office Library ▶

\_\_\_\_\_

**II. CLINICAL MATTERS (15 pts)**

Number and variety of cases admitted and operated, ER/OPD cases ▶

\_\_\_\_\_

**III. TEACHING/LEARNING ACTIVITIES (25 pts)**

Conferences, Teaching rounds, Journal clubs Didactics, Consultants participation ▶

\_\_\_\_\_

**IV. STAFFING (5 pts)**

Number of Fellows, Subspecialties Residents ▶

\_\_\_\_\_

**V. RESIDENTS EVALUATION (20 pts)**

Interview , ITE, Logbooks, peer evaluations, ward rounds, with visiting PBO ▶

\_\_\_\_\_

**VI. REASEARCH (10 pts)**

Number, quality ▶

\_\_\_\_\_

**VII. STAFF DEVELOPMENT (5pts)**

Consultants/Residents participation in national/international conventions workshops, etc. ▶

\_\_\_\_\_

**IX. TRAUMA REGISTRY (5 pts)**

Score provided by POA Trauma Registry Committee ▶

\_\_\_\_\_

**Total ▶**

**COMMENTS ▶**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**PBO EVALUATOR ▶**

\_\_\_\_\_ (Name and Signature)

<b>FORM No.</b>	<b>AC-04</b>	<b>No. of Pages</b>	9
<b>FORM NAME</b>	Annual Report		
<b>REMARKS</b>	Prescribed format of the annual report of accredited programs submitted as a requirement prior to annual inspection.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

## ANNUAL REPORT

### ORTHOPAEDIC TRAINING PROGRAMS

Form  
**AC-04****I. HOSPITAL DATA:**

A. Hospital : \_\_\_\_\_  
Date : \_\_\_\_\_

Section Head : \_\_\_\_\_

Signature : \_\_\_\_\_

Department Chairman: \_\_\_\_\_

Signature : \_\_\_\_\_

Hospital Director : \_\_\_\_\_

Signature : \_\_\_\_\_

**B. Total Bed Capacity**

1. Private Beds : \_\_\_\_\_

2. Charity Beds : \_\_\_\_\_

3. Orthopedic Beds: \_\_\_\_\_ (Charity/Service)

**C. Directory**

Address : \_\_\_\_\_

Tel. No. : \_\_\_\_\_

Fax No. : \_\_\_\_\_

E-Mail : \_\_\_\_\_

<b>FORM No.</b>	<b>AT-01</b>	<b>No. of Pages</b>	2
<b>FORM NAME</b>	Peer Assessment Tool		
<b>REMARKS</b>	Form recommended for use in assessing the performance of resident trainees.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

**PEER ASSESSMENT TOOL**

ASSESSMENT AND FEEDBACK DURING TRAINING

Form  
**AT-01**

Resident's Name ▶ \_\_\_\_\_  
 Institution ▶ \_\_\_\_\_  
 Year Level ▶ \_\_\_\_\_ Date of Assessment ▶ \_\_\_\_\_

How do you rate this Resident in their:	<b>Standard:</b> The assessment be judged against the standard expected at completion of this level of training. Levels of training are defined by respective training programs.						
	Below expectations		Borderline	Meets expectations	Above expectations		U/C <sup>1</sup>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	
<b>Good Clinical Care</b>							
1. Ability to diagnose patient problems							
2. Ability to formulate appropriate management plans							
3. Awareness of own limitations.							
4. Ability to respond to psychosocial aspects of illness.							
5. Appropriate utilization of resources e.g ordering investigations.							
<b>Maintaining good medical practice</b>							
6. Ability to manage time effectively priorities.							
7. Technical skills (appropriate to Current practice).							
<b>Teaching and Training, Appraising and Assessing</b>							
8. Willingness and effectiveness when Teaching / Training colleagues.							
<b>Relationship with Patients</b>							
9. Communication with patients							
10. Communication with careers and/or family							
11. Respect for patients and their rights To confidentiality							
<b>Working with colleagues</b>							
12. Verbal communication with Colleagues.							
13. Written communication with Colleagues							
14. Ability to recognize and value the Contributions of others.							
15. Accessibility / Reliability							
16. Overall, how do you rate this doctor compared to a doctor ready to complete this level of Training?							

<sup>1</sup> Please mark this if you have not observed the behavior and therefore feel unable to comment

<b>FORM No.</b>	<b>AT-02</b>	<b>No. of Pages</b>	2
<b>FORM NAME</b>	Clinical Evaluation Exercise		
<b>REMARKS</b>	Form recommended for use in assessing the performance of resident trainees.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

**CLINICAL EVALUATION EXERCISE**

ASSESSMENT AND FEEDBACK DURING TRAINING

Form  
**AT-02**

Resident's Name ▶ \_\_\_\_\_  
 Institution ▶ \_\_\_\_\_  
 Year Level ▶ \_\_\_\_\_ Date of Assessment ▶ \_\_\_\_\_

**Clinical setting**

e.g. Outpatients, Inpatients, ER

**Clinical problem**

e.g. fracture, dislocation

**Focus of clinical encounter:**
 Medical record keeping   
 Clinical Assessment   
 Management   
 Professionalism
**Complexity of case:**
 Low   
 Average   
 High   
 Assessor's position: \_\_\_\_\_

Please grade the areas below using the scale 1-6:	Standard: The assessment be judged against the standard expected at completion of this level of training. Levels of training are defined by respective training programs.						
	Below expectations		Borderline	Meets expectations	Above expectations		U/C <sup>1</sup>
	1	2	3	4	5	6	
1. History taking							
2. Physical Examination Skills							
3. Communication Skills							
4. Clinical Judgement							
5. Professionalism							
6. Organization/Efficiency							
7. Overall Clinical Care							

<sup>1</sup> U/C Please mark this if you have not observed the behavior and therefore feel unable to comment.

Anything especially good?	<b>Suggestions for development:</b> Include an explanation of any rating below "MeetsExpectations"
<b>Agreed action:</b>	

Evaluator's Name and Signature ▶	
Date ▶	

<b>FORM No.</b>	<b>AT-03</b>	<b>No. of Pages</b>	2
<b>FORM NAME</b>	Case-Based Discussion		
<b>REMARKS</b>	Form recommended for use in assessing the performance of resident trainees.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

**CASE-BASED DISCUSSION (CBD)**  
ASSESSMENT AND FEEDBACK DURING TRAINING

Form  
**AT-03**

Resident's Name ▶ \_\_\_\_\_  
 Institution ▶ \_\_\_\_\_  
 Year Level ▶ \_\_\_\_\_ Date of Assessment ▶ \_\_\_\_\_

**Clinical setting**  
 e.g Outpatients, Inpatients, ER

**Clinical problem**  
 e.g. fracture, dislocation

**Focus of clinical encounter:**

- Medical record keeping     Clinical Assessment     Management     Professionalism

**Complexity of case:**     Low     Average     High    Assessor's position: \_\_\_\_\_

Please grade the areas below using the scale 1-6:	<b>Standard:</b> The assessment be judged against the standard expected at completion of this level of training. Levels of training are defined by respective training programs.						
	Below expectations		Borderline	Meets expectations	Above expectations		U/C <sup>1</sup>
	1	2	3	4	5	6	
1. Medical Recording							
2. Clinical Assessment							
3. Investigation & Repair							
4. Treatment							
5. Follow-up and Future Planning							
6. Professionalism							
7. Overall Clinical Judgment							

<sup>1</sup> U/C Please mark this if you have not observed the behavior and therefore feel unable to comment.

Anything especially good?	<b>Suggestions for development:</b> Include an explanation of any rating below "MeetsExpectations"
---------------------------	--

**Agreed action:**

Evaluator's Name and Signature ▶	_____
Date ▶	_____

<b>FORM No.</b>	<b>AT-04</b>	<b>No. of Pages</b>	2
<b>FORM NAME</b>	Direct Observation of Procedural Skills in Surgery		
<b>REMARKS</b>	Form recommended for use in assessing the performance of resident trainees.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

## Direct Observation of Procedural Skills in Surgery

ASSESSMENT AND FEEDBACK DURING TRAINING

Form  
**AT-04**

Resident's Name ▶ \_\_\_\_\_  
 Institution ▶ \_\_\_\_\_  
 Year Level ▶ \_\_\_\_\_ Date of Assessment ▶ \_\_\_\_\_

Name of Procedure:

Number of times Resident has performed this procedure:

Complexity of procedure: Low Average High Assessor's position: \_\_\_\_\_

Please grade the areas below using the scale 1-6:	Standard: The assessment be judged against the standard expected at completion of this level of training. Levels of training are defined by respective training programs.						
	Below expectations		Borderline	Meets expectations	Above expectations		U/C <sup>1</sup>
	1	2	3	4	5	6	
1. Describes indications, relevant anatomy & details of procedure							
2. Obtains informed consent, after explaining procedure & comps							
3. Prepares for procedure according to an agreed protocol							
4. Administers effective local anesthesia (if no anesthetist)							
5. Demonstrates good asepsis and safe use of instruments/sharps							
6. Performs the technical aspects in line with the guidance notes							
7. Deals with any unexpected event or seeks help when appropriate							
8. Completes required documents (operative record)							
9. Issues clear post-procedure instructions to patient/staff							
10. Communicates with patient & staff professionally							
<b>11. Overall ability to perform the whole operation</b>							

<sup>1</sup> U/C Please mark this if you have not observed the behavior and therefore feel unable to comment.

**Suggestions for development/Agreed Action**

Evaluator's Name and Signature ▶ \_\_\_\_\_  
 Date ▶ \_\_\_\_\_

<b>FORM No.</b>	<b>AW-01</b>	<b>No. of Pages</b>	2
<b>FORM NAME</b>	Outstanding Residents Award: CV of Applicants		
<b>REMARKS</b>	A brief curriculum vitae of applicants for the Outstanding Residents Award.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

**OUTSTANDING RESIDENTS AWARD**  
CURRICULUM VITAE OF APPLICANTS

Form  
**AW-01**

**I. PERSONAL DATA:**

Name: \_\_\_\_\_ Civil Status: \_\_\_\_\_  
 Age/Sex: \_\_\_\_\_ Birth date: \_\_\_\_\_ Telephone number: \_\_\_\_\_  
 Citizenship: \_\_\_\_\_ Nickname: \_\_\_\_\_

**II. EDUCATIONAL BACKGROUND:**

School/Address	Dates of Attendance	Degrees	Academic Distinctions
Elementary:			
_____	_____	_____	_____
_____	_____	_____	_____
Secondary:			
_____	_____	_____	_____
_____	_____	_____	_____
College:			
_____	_____	_____	_____
_____	_____	_____	_____
Internship:			
_____	_____	_____	_____
_____	_____	_____	_____
Post-Graduate:			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**III. LICENSURE/SPECIAL EXAMINATIONS TAKEN: (Local and Foreign)**

Examination	Date Taken	Rating/Rank
_____	_____	_____
_____	_____	_____
_____	_____	_____

<b>FORM No.</b>	<b>AW-02</b>	<b>No. of Pages</b>	1
<b>FORM NAME</b>	Outstanding Residents Award: Criteria for Judging		
<b>REMARKS</b>	Evaluation sheet used by the board of judges in assessing candidates for the Outstanding Residents Award.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

## OUTSTANDING RESIDENTS AWARD CRITERIA FOR JUDGING

Form  
**AW-02**

Name: \_\_\_\_\_ Civil Status: \_\_\_\_\_  
 Age/Sex: \_\_\_\_\_ Birth date: \_\_\_\_\_ Telephone number: \_\_\_\_\_  
 Citizenship: \_\_\_\_\_ Nickname: \_\_\_\_\_

**I. ITE (40%)**

Score ► \_\_\_\_\_

a.) 1 <sup>st</sup> Place	-	40 Points
b.) 2 <sup>nd</sup> Place	-	35 Points
c.) 3 <sup>rd</sup> Place	-	30 Points
d.) 4 <sup>th</sup> Place	-	25 Points
e.) 5 <sup>th</sup> Place	-	20 Points

**II. Research Paper (30%)**

Score ► \_\_\_\_\_

Scoring will range from 60% to 100%

**III. Interview (30%)**

Score ► \_\_\_\_\_

**A.) Achievements**

* International	-	8 Points
* National	-	5 Points
* Local	-	2 Points

**B.) Leadership**

* International	-	8 Points
* National	-	5 Points
* Local	-	2 Points

**C.) Social Civic Consciousness**

* International	-	8 Points
* National	-	5 Points
* Local	-	2 Points

**D.) Development**

* International	-	8 Points
* National	-	5 Points
* Local	-	2 Points

Total ►

PBO EVALUATOR ►

\_\_\_\_\_  
(Name and Signature)

<b>FORM No.</b>	<b>EC-01</b>	<b>No. of Pages</b>	1
<b>FORM NAME</b>	Information Sheet: OITE/Qualifying Examination Candidates		
<b>REMARKS</b>	For use by year levels 1 to 4 residents applying to take the ITE/Qualifying Examinations.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

## INFORMATION SHEET

OITE/QUALIFYING EXAMINATION CANDIDATES

Form  
**EC-01**

<i>(Please Print)</i>			(Photo here)
▼ Surname:	▼ First name:	▼ Middle name:	
▼ Birth date: (mmdyyy)	▼ Birth place:	▼ Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	
▼ Home Address:	▼ Home phone no.:		
▼ Office Address:	▼ Mobile phone no.:		
Preferred Mailing Address (Please Tick One) ▶: <input type="checkbox"/> Home <input type="checkbox"/> Office			
Medical School Graduated from ▶:		Year graduated ▶:	
Internship ▶:		Year graduated ▶:	
PRC Licensed no ▶:	Date Issued ▶:	Valid until ▶:	
<b>ORTHOPEADIC RESIDENCY TRAINING</b>			
▼ Institution	▼ Dates of attendance :		
1. Year Level 1			
2. Year Level 2			
3. Year Level 3			
4. Year Level 4			
5. Year Level 5			

*** This portion for PBO use only. ***		
ORTHOPEADIC IN TRAINING EXAM RESULT		
Year Level	Date taken	Result/Comments
Level 1		
Level 2		
Level 3		
Level 4		

<b>FORM No.</b>	<b>EC-02</b>	<b>No. of Pages</b>	<b>1</b>
<b>FORM NAME</b>	Information Sheet: Diplomate Exam Candidates		
<b>REMARKS</b>	For use by graduates of accredited training programs applying to take the Diplomate Examination.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

**INFORMATION SHEET**

DIPLOMATE EXAMINATION CANDIDATES

Form  
**EC-02**

<i>(Please Print)</i>			(Photo here)
▼ Surname:	▼ First name:	▼ Middle name:	
▼ Birth date: (mmdyy)	▼ Birth place:	▼ Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	
▼ Home Address: ▼	▼ Home phone no.: (     )		
▼ Primary Clinic Address:	▼ Mobile phone no.:		
Preferred Mailing Address (Please Tick One) ▶: <input type="checkbox"/> Home <input type="checkbox"/> Clinic		Clinic Phone ▶:	
Place(s) of Practice ▶:			
Medical School Graduated from ▶:		Year graduated ▶:	
Internship ▶:		Year attended ▶:	
PRC License no ▶:	Date Issued ▶:	Valid Until ▶:	
▼ Orthopaedic Residency Training :		▼ Inclusive dates of attendance :	
▼ Fellowship or Post Graduate Training:		▼ Inclusive dates of attendance :	
1.	1.		
2.	2.		
▼ Academic Appointments : (Institution)		▼ Rank/ Position:	
1.			
2.			
▼ Medical Society Membership(s) :			
1.			
2.			
3.			
▼ Hospital Affiliations (Credentialed, if applicable):			
1.			
2.			
3.			
▼ Research Papers (Titles and where published, if applicable; Attach papers separately) :			
1.			
2.			
3.			

<b>FORM No.</b>	<b>EC-03</b>	<b>No. of Pages</b>	1
<b>FORM NAME</b>	Diplomate Examination: Part 2		
<b>REMARKS</b>	For use by the Board of Trustees in evaluating examinees in the Viva Voce component of the Diplomate Exam.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

**DIPLOMATE EXAMINATION: PART 2**  
ORAL EXAM

Form  
**EC-03**

Date of Exam: \_\_\_\_\_

Examinee No. \_\_\_\_\_

Panel: \_\_\_\_\_

Examiner: \_\_\_\_\_

CASE # 1	Highest Score	Actual Score	Comments
Question 1.	_____	_____	_____
Question 2.	_____	_____	_____
Question 3.	_____	_____	_____
Question 4.	_____	_____	_____
Question 5.	_____	_____	_____
Question 6.	_____	_____	_____
Question 7.	_____	_____	_____
<b>Subtotal:</b>	_____	_____	_____

CASE # 2	Highest Score	Actual Score	Comments
Question 1.	_____	_____	_____
Question 2.	_____	_____	_____
Question 3.	_____	_____	_____
Question 4.	_____	_____	_____
Question 5.	_____	_____	_____
Question 6.	_____	_____	_____
Question 7.	_____	_____	_____
<b>Subtotal:</b>	_____	_____	_____

CASE # 3	Highest Score	Actual Score	Comments
Question 1.	_____	_____	_____
Question 2.	_____	_____	_____
Question 3.	_____	_____	_____
Question 4.	_____	_____	_____
Question 5.	_____	_____	_____
Question 6.	_____	_____	_____
Question 7.	_____	_____	_____
<b>Subtotal:</b>	_____	_____	_____

**TOTAL:**      **100**     

Recommended Actions:     Pass     Fail

If fail, state main reasons for failure (be as specific as possible):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Signature of Examiner

<b>FORM No.</b>	<b>EC-04</b>	<b>No. of Pages</b>	<b>1</b>
<b>FORM NAME</b>	Diplomate Exam: Part 3		
<b>REMARKS</b>	For use by the Board of Trustees in evaluating examinees in the Practical component of the Diplomate Exam.		



PHILIPPINE BOARD OF ORTHOPAEDICS, INC.

### DIPLOMATE EXAMINATION: PART 3 PRACTICAL EXAM

Form  
EC-04

<i>(Please Print)</i>			
▼ <b>Surname:</b>		▼ <b>First name:</b>	
		▼ <b>Middle name:</b>	
▼ <b>Date of Examination</b> ▶		▼ <b>Place of Examination</b> ▶	
▼ <b>Residency Training</b> ▶		▼ <b>Year completed</b> ▶	
<b>PATIENT DETAILS</b>			
▼ <b>Patients Initials</b> ▶		▼ <b>Hospital Case No</b> ▶	
▼ <b>Pre-operative Diagnosis</b> ▶			
<b>Part One: PROCESS</b>			
<b>PRE-OP:</b>			
Proposed Procedure/PLAN ▶		20%	
<b>INTRA-OP: ( Subtotal = 50% )</b>			
Positioning; Asepsis/Antisepsis; Draping ▶		5%	
Approaches & Dissection ▶		15%	
Soft tissue handling / Hemostasis▶		5%	
Use of instruments / implants ▶		10%	
Intra-op decision-making ▶		15%	
<b>POST-OP:</b>			
Immediate Post-Op Management ▶		20%	
<b>OPERATING ROOM DECORUM:</b>		10%	
<b>Total Score for Part One</b> ▶		<b>100%</b>	
<b>Part Two: OUTCOME</b>			
(X-rays, Complication, etc.) ▶			
<b>Total Score for Part Two</b> ▶		<b>100%</b>	
<b>FINAL SCORE</b> ▶		(MPL = 75%) (Score of Part One x .80) + (Score of Part Two x .20) ▶	
<b>REMARKS</b> ▶			

PBO EXAMINER ▶

(Name and Signature)



## Appendix B: PBO Accredited Training Institutions

### Armed Forces of the Philippines Medical Center

Department Head	Maj. Rex D. Prudente, MD, FPOA
Training Officer	Victor Gerardo E. Pundavela, MD, FPOA
Address	Department of Orthopaedics and Traumatology Armed Forces of the Philippines Medical Center Victoriano Luna Road, Quezon City
Phone	63 (2) 435 5641
Email	orthovatos@skyinet.net
Website	<a href="http://www.orthovatos.com">http://www.orthovatos.com</a>

### Baguio General Hospital and Medical Center

Department Head	Johnson J. Tan Yee, MD, FPOA
Training Officer	Antonio N. Tactay, MD, FPOA
Address	Kennon Road corner Gov. Pack Road Baguio City, Benguet Province
Phone	63 (74) 442 4216; 63 (74) 442 3165; 63 (74) 444 2235 63 (74) 444 2235; 63 (74) 444 8186
Email	orthobghmc@yahoo.com
Website	not available

### Chong Hua Hospital

Department Head	Agustin Miguel G. Morales, MD, FPOA
Training Officer	Jose Antonio G. San Juan, MD, FPOA
Address	Don Mariano Cui Street corner J. Llorente Street Cebu City, Cebu
Phone	63 (32) 255 8000
Email	chhorto@yahoo.com
Website	not available

### Corazon L. Montelibano Memorial Regional Hospital

Department Head	Anthony C. Kho, MD, FPOA
Training Officer	Jose Maria R. Coruna, MD, FPOA
Address	Lacson cor. Burgos Sts. Bacolod City
Phone	63 (34) 4345898
Email	jungerochi@yahoo.com
Website	not available

### De la Salle University Medical Center

Department Head	Ricardo C. Liwag, MD, FPOA
Training Officer	Joaquin C. Pandanan, MD, FPOA
Address	University Avenue Dasmariñas, Cavite
Phone	63 (46) 416 4225; 63 (46) 416 0226 loc 121
Email	ortho@hsc.dlsu.edu.ph
Website	not available

## Appendix B: PBO Accredited Training Institutions

### East Avenue Medical Center

Department Head	Venancio P. Garduce, Jr., MD, FPOA
Training Officer	Misael Ticman, MD, FPOA
Address	East Avenue Diliman, Quezon City
Phone	63 (2) 426 4412
Email	dr_geronilla@yahoo.com
Website	not available

### Jose R. Reyes Memorial Medical Center

Department Head	Enrico A. de Jesus, MD, FPOA
Training Officer	Juan Alejandro V. Legaspi, MD, FPOA
Address	Rizal Avenue Sta. Cruz, Manila
Phone	63 (2) 743 1088; 63 (2) 711 9491
Email	orthodocsjr@yahoo.com
Website	not available

### Makati Medical Center

Department Head	Liberato Antonio A. Leagogo, MD, FPOA
Training Officer	Orson V. Odulio, MD, FPOA
Address	2 Amorsolo Street Makati City
Phone	63 (2) 840 5906
Email	makatimed_ortho@yahoo.com
Website	not available

### The Medical City

Department Head	Rafael S. Claudio, MD, FPOA
Training Officer	Albert Jerome C. Quintos, MD, FPOA
Address	Ortigas Avenue Pasig City
Phone	63 (2) 635 6789 loc 6517
Email	not available
Website	not available

### Northern Mindanao Medical Center

Department Head	Jovito C. Lao, MD, FPOA
Training Officer	Peter S. Quiaot, MD, FPOA
Address	Capitol Compound, Corrales Avenue Cagayan de Oro City
Phone	(08822) 725 735
Email	jacpim@yahoo.com
Website	not available

## Appendix B: PBO Accredited Training Institutions

### Philippine General Hospital, University of the Philippines

Department Head	Mario B. Geronilla, MD, FPOA
Training Officer	Adrian B. Catbagan, MD, FPOA
Address	Taft Avenue Ermita, Manila
Phone	63 (2) 524 2203
Email	orthopedics_pgh@yahoo.com
Website	<a href="http://www.pgh.gov.ph/orthopedics">http://www.pgh.gov.ph/orthopedics</a>

### Philippine Orthopaedic Center

Department Head	Teodoro R. Castro, MD, FPOA
Training Officer	Camilo V. Te, MD, FPOA
Address	Maria Clara Street corner Banawe Avenue Quezon City
Phone	63 (2) 711 4276
Email	pocmetra@philcom.com.ph
Website	not available

### St. Luke's Medical Center

Department Head	Antonio M. Tanchuling, MD, FPOA
Training Officer	Richard S. Rotor, MD, FPOA
Address	279 E. Rodriguez Sr. Boulevard Quezon City
Phone	63 (2) 723 0101
Email	ortho@stluke.com
Website	not available

### University of Santo Tomas Hospital

Department Head	Alberto Ma. V. Molano, MD, FPOA
Training Officer	Nelson T. Lim, MD, FPOA
Address	España Avenue corner Forbes Avenue Sampaloc, Manila
Phone	63 (2) 731 3001 loc 2403
Email	ustortho@yahoo.com
Website	not available

### Veterans Memorial Medical Center

Department Head	Ruben B. Cardenas, MD, FPOA
Training Officer	Eduardo San Gabriel, MD, FPOA
Address	North Avenue Diliman, Quezon City
Phone	63 (2) 927 6426 loc 211
Email	not available
Website	not available

## Appendix B: PBO Accredited Training Institutions

### Southern Philippines Medical Center (Davao Medical Center)

Department Head	Manolo M. Palabyab, MD, FPOA
Training Officer	Hilario M. Diaz, MD, FPOA
Address	Jose P. Laurel Street Davao City
Phone	63 (82) 227 2731 loc 4137
Email	diazllt@pltdtssl.net
Website	not available

### Vicente Sotto Memorial Medical Center

Department Head	Fidencio M. Pañares, MD, FPOA
Training Officer	Mario L. Chan, MD, FPOA
Address	B. Rodriguez Street Cebu City
Phone	63 (32) 253 9891
Email	drpanares@yahoo.com
Website	not available

### Western Visayas Medical Center

Department Head	Ronnie B. Payba, MD, FPOA
Training Officer	Margarito M. Morano, MD, FPOA
Address	Q. Abeto Street Mandurriao, Iloilo City
Phone	63 (33) 321 2841 loc 141
Email	not available
Website	not available

### West Visayas State University Hospital

Department Head	Benjamin D. Legada, Jr., MD, FPOA
Training Officer	Marcelo N. Jaen, MD, FPOA
Address	E. Lopez Street Jaro, Iloilo City
Phone	63 (33) 320 1410
Email	wsubone@mozcom.com
Website	not available

