

ASSI Spine Fellowship Handbook



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Message from the ASSI president

Dear Fellows,

Welcome to the ASSI Spine Fellowship Program and congratulations on being selected for this prestigious Fellowship. This, as you all know is a fully structured and monitored 2 years training in Spine Surgery. The Fellowship centers you have chosen or have been allotted to are one of the best training centers of Spine training in India & Abroad. Your training Centers and your Mentors have worked very hard to create a comprehensive training program for you. This booklet has been made to guide you through the next two years as to what you are going to learn and what is expected of you. The booklet provides all details of the center you are going to join.

Use these two years well and work sincerely. Educate yourself as much as you can. I urge you all to take benefit of the webinars and courses that ASSI organizes regularly.

Spine surgery is intricate and the treatment of Spinal diseases and related ailments is complex. The art of history taking and clinical examinations is probably as important as surgical techniques, so focus on all of them equally. Learning research methodology, developing good presentation skills, writing research papers are all a part of training and so a thesis dissertation is also included as part of the curriculum.

Congratulations again and I wish you all the best of luck. Welcome to the exclusive Club.

Warm regards

Shankar Acharya

President ASSI.

The ASSI Fellowship

Welcome to the ASSI spine fellowship program. The Association of Spine Surgeons of India established the ASSI Spine Fellowship in 2012 which was the initiative of the then president Dr S. Rajasekeran. The Objective of the fellowship was to improve the quality of the spine care in India by establishing high and uniform standards of training and examinations in spine surgery on an all-India basis.

The curriculum and the learning methods have been laid out to standardise the training to achieve a level of acknowledged competency. These are in par with fellowships across the country and abroad.

The fellowship exit exam conducted by ASSI provides a common standard of evaluation of knowledge and competencies gained by the candidate for which spine surgical training was imparted in the different medical institutions. It not only assesses the candidate's theory and practical knowledge during the final exam, but also gives a lot of credit to the clinical work, seminar and research done during the fellowship.

The fellowship program and exit assessments are designed to ensure fellows demonstrate the skills (clinical & academic), behaviour and attitude necessary for a competent spine surgeon to deliver optimal spine health care.

This booklet is prepared to be a ready reference for the fellows.

ASSI Fellowship centres and mentors

S.No.	Hosting Centre	Mentor	Email ids
1	Ganga Hospital, Coimbatore	Prof S Rajasekaran / Dr. Ajoy Shetty	rajasekaran.orth@gmail.com / ajoymshetty@gmail.com
2	Kothari Medical Centre, Kolkata	Dr. Saumyajit Basu	saumyajitbasu@hotmail.com
3	Bombay Hospital, Bombay	Dr. Arvind G. Kulkarni / Dr Vishal Kundnani	drarvindspines@gmail.com / kundnanivishal@yahoo.co.in
4	P D Hinduja National Hospital, Bombay	Dr. Samir Dalvie	sdalvie@hotmail.com
5	B. J. Medical College and Civil Hospital, Ahmedabad	Dr. (Prof) (Major) Rajesh A Solanki	govspineinstitute@gmail.com
6	Apollo Hospitals, Chennai	Dr. Sajan K Hegde	sajanhegde@gmail.com
7	Indian Spinal Injuries Centre, Delhi	Dr HS Chhabra	drhschhabra@isiconline.org
8	Leelavati Hospital, Mumbai	Dr. Abhay Nene/ Dr. Shekhar Bhojraj	drsybhojraj@gmail.com / abhaynene@yahoo.com
9	Sir Ganga Ram Hospital, New Delhi	Dr. Shankar Acharya	spineshankar@gmail.com
10	Sancheti Spine Centre & Hospital, Pune	Dr Shailesh Hadgaonkar	drshadgaonkar@gmail.com
11	Stavya Spine Hospital & Research Institute/Annexe PVT.LTD, Ahmedabad	Dr Bharat Dave	brd_172@yahoo.com

Details regarding each fellowship centre are available in Annexure 1

Fellowship Curriculum

Introduction

The idea is to have a sensible and safe spine surgeon at the end of the fellowship who builds his/her practice sustainably based on evidence, with a clear understanding of his/her limitations.

The program has the following sections which will form the core pillars of training.

- Theory/ didactic component – ASSI Spine Fellowship Syllabus (power point presentation).
- Case based Discussions (CBD)
- Direct observation of Procedural Skills (DOPS)
- Research / Dissertation, publications, and presentations at conferences.
- Evaluation

Syllabus

The syllabus should cover the full spectrum of spinal ailments as tabulated below.

Fellows are expected to cover the curriculum syllabus through various in-house learning activities including power point presentations of the syllabus topics and to document all teaching tool activities in the log book

Further the copyright of the presentation should stay with the candidate and the mentor. This Power-point is to be evaluated by the mentor and may constitute part of internal assessment.

Following is the list of topics which can be covered for PPT.

- Approaches to Spine
 - Cervical, Thoracic, Lumbar
- Basic osteology of spine

- C1-C2, Typical subaxial C-spine, Thoracic spine, Lumbar, Sacrum and sacroiliac joint
- Basic sciences – Disc anatomy, biomechanics etc
- Spinal Instrumentation - Basics (Screw designs, hook designs etc.), Metallurgy basics (properties of SS, Titanium, CC, PEEK) Biomechanics and Applications.
- Functional /scoring systems in spine - over view of importance of various scoring systems in different pathologies, validity and reliability, ODI, VAS, SF-36, SRS questionnaire, JOA, MJOA, Nuricks, ASEA grading, Tomita, Tokuhashi, Wang Bohlmanns, Odoms, satisfactions indices etc, what's new in literature
- Bone Graft Substitutes - Concept of bone healing, pseudoarthrosis, Bone graft substitutes, BMP, Bone matrices, complications, advantages, recent literature
- Spinal fusion – PLF, PLIF, TLIF, XLIF/OLIF, 360 fusion- Indications, techniques, pitfalls and recent literature
- Thoracolumbar Trauma - Basic review of classification systems, importance in management, pitfalls, reliability.
- Cervical Trauma - Basic review of classification systems, importance in management, pitfalls, reliability.
- Lower Lumbar Fractures – Current evidence.
- Spondylolisthesis - classification systems, importance in management, pitfalls, overview of low grade versus high grade listhesis management, what's new in literature.
- Scoliosis – Early onset, Later onset and Adult
- TB spine past present and future. Conservative and Surgical.
- Osteoporotic Fractures- Conservative and Surgical
- Spinal Dysraphism
- CV junction anomalies and AC Malformations
- Syringomyelia.
- Spinal cord tumours

- Overview of literature on various spinal tumours, primary, secondary, management tips from literature, management guidelines on metastasis, GCT of the spine, Chordoma of the spine etc, what's new in spine surgery.
- Spinal Cord Injury and Rehabilitation strategies/goals
- Cervical myelopathy- aetiology, treatment options, pros and cons, recent trends
- Minimally invasive spinal surgery – indications and techniques.
- What's new in spine surgery?
- Common Complications and management strategy. (e.g., Dural tear, deficits etc)
- Living with burden of complications/social responsibility
- Work life balance, ETHICS

Suggested Reading

Spine examination

- S. Das Manual on Clinical Surgery 15th Edition
- McRae Clinical Orthopaedic Examination 6th Edition

Neurology examination

- DeJong's The Neurologic Examination 8th Edition
- Hoppenfield Orthopaedic Neurology 2nd Edition
- Bickerstaff's Neurological Examination 7th Adapted Edition

Theory

- Campbells Operative Orthopaedics 14th Edition
- Bridwell and DeWald's Textbook of Spinal Surgery 4th Edition
- Rothman Simeone and Herkowitz's - The Spine 7th Edition

Exposures

- Surgical Atlas of Spinal Operations 2nd Edition

Recommended journals

- Indian Spine Journal
- Asian Spine Journal
- Global Spine Journal
- European Spine Journal
- The Spine Journal
- Spine
- JBJS Spine
- North American Spine Society Journal
- Journal of Neurosurgery

Case based Discussions:

The case-based discussion (CBD) usually should require 10-20 minutes of one-on-one discussion between the trainee and mentors, and the whole process should take

roughly 30-45 minutes. At least 2 case-based discussions should happen in a month. This will also be part of Logbook and during exam viva he/she can be asked questions based on this.

The trainee should be prepared with a set of patients representative of the topic of discussion, preferably admitted in the centre at the time and with whose care the candidate is significantly involved. The supervisor may direct the trainee to assess a particular case for discussion and assessment.

1. An estimate of the complexity of the discussion should be given.
2. The trainee is rated according to how much prompting he or she required to demonstrate adequate reasoning and other skills, for **safe care**.
3. Feedback should be given at the time of the assessment. It should be specific, objective and constructive. The trainee should be given a documented advice on areas that he or she needs to focus on in his or her future study and structures that he or she may find helpful for approaching tasks such as formulating plans.

Direct observation of procedural skills (DOPS)

Direct observation of procedural skills is aimed to assess and provide structured feedback about both knowledge and technical proficiency regarding a discrete procedural skill. There should be adequate exposure to all types of surgical procedures. It is mandatory for the fellow to acquire basic surgical skills to perform basic spine surgeries under supervision. The fellow should have assisted as first assistant in all complex procedures. It will be again part of Logbook.

Research, Dissertation/Thesis:

It is a mandatory requirement by the ASSI that the Fellow writes up a dissertation during his fellowship and be submitted to the ASSI prior to appearing for the exit exam

A suggested timeline is as follows

- Dissertation topic to be finalized within a month of joining.
- Review of literature (basic) and Proforma completed within 2 months
- The thesis protocol has to be submitted to the ASSI in 3 months
- The topic must be presented to the ASSI thesis review board (virtual) within 3 months of joining. This is preferably done with the thesis guide in attendance.
- The topic is finalized and should then be registered with the ASSI.
- An interim report should be presented to the thesis committee (virtual) at the end of the 1st year
- Dissertation submission 3 months before the exit examination

The progress of your dissertation should be updated and reviewed by the guide once in every 2 months. Further details regarding writing the protocol, preparation and submission of the dissertation/ thesis is in the section on ASSI thesis on page 12

The fellow is expected to complete at least one full research project leading to publication / submission in a peer review journal. (This may or may not be his dissertation) Submitting research work for publication will be a prerequisite for sitting in the exit exam.

Conferences and workshops

The fellow is expected to present at least one paper at a national or international spinal meeting. It is suggested that the fellow gains additional skill by attending cadaver workshops, sawbones workshops, and learning centre experiences. The ASSI conducts a spine fellow teaching course, 2-3 times a year (live/ virtual) for the benefit of the fellows, and it is recommended that the fellows attend the course.

Logbook

The fellows are expected to maintain a logbook which includes details of the seminars and journal clubs presented, case-based discussions held with the mentor, conferences and workshops attended, papers presented at meetings and conferences and the surgical and other procedures they have been involved in. The procedure section should be labelled with observed, assisted, performed under supervision and performed independently depending on the level of involvement. The logbook should be countersigned by the mentor and produced at the Exit exam for evaluation. (Sample for the ASSI log book is given in annexure 3)

Evaluation

There should be a formative assessment test (FAT) every six months in the form of Theory and Case based exam. End of fellowship evaluation will allow uniform core knowledge base, permit a complete assessment of a prospective surgeon's understanding of spine principles, assure quality in spine care, and thereby permitting better public access to spine surgery specialists.

Follow up Evaluation

It is strongly recommended that the trainee after successfully completing the fellowship exam should be back for a formal discussion with mentor at 1 year of clinical practice. This will provide the valuable feedback to the mentor and the ASSI, so as to fine tune the training program. The trainee can take this opportunity to discuss challenges faced in early practice. He can seek advice on identifying any skill gaps and take appropriate remedial measures.

ASSI Thesis Guidelines for preparation & submission of thesis protocol

(To be submitted within 3 months of joining)

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1. INTRODUCTION

Research is defined as a systematic methodological scientific approach for basic facts in order to find solutions based on these facts. Research investigations may be carried out in one of two ways: interventional studies (experiments) or non-interventional surveys of naturally occurring phenomenon (descriptive and analytical studies).

It is assumed that the protocol for a research proposal is a study plan, designed to describe the objectives, background, methodology, organization, the participants, interventional procedures and assessment tools of the trial. One may begin to write a clinical protocol after many discussions among numerous individuals. Hence, we can say that the protocol is a self-contained document or the 'operating manual' to refer to while conducting the research related activities.

The development or preparation of the Thesis Protocol by the candidate will help him in understanding the ongoing research activities in his area of interest. Further it helps in creating practical exposure to research and hence it bridges the connectivity between clinical practice and biomedical research. Such research exposure will be

helpful in improving problem solving capacity, updating with ongoing research and implementing these findings in clinical practice.

2. CONTENTS OF A THESIS PROTOCOL

2(a) TITLE PAGE

The general information should be provided on the Title Page as:

- i) A good title should be short, accurate, informative, and concise; it should avoid abbreviations. It should also reflect the details of the study undertaken e.g., whether a prospective or a retrospective study / whether a cross-sectional or a randomized trial / whether an equivalence or superiority or inferiority trial etc.? [Titles like: A study on prevalence on asthma in North India (hospital based) should not be encouraged]
- ii) The name and title of the investigator who is responsible for conducting the research.
- iii) The address and telephone numbers of the site

2(b) PROJECT SUMMARY

The summary should give a clear idea to the reader regarding the central question that the research is intended to answer and also its justification. It should specify the hypothesis (if applicable) and the research objectives. In addition, the summary should briefly describe the methods and procedures laid out in the methodology. The anticipated outcome of the study must also be mentioned.

2(c) INTRODUCTION AND BACKGROUND

This is critical in any protocol. It familiarizes the readers with the background of the issue at hand. It is crucial that this is handled well. It must reflect why the issue is topical and its current importance in the vast sea of research being done globally.

2(d) REVIEW OF LITERATURE

This is another crucial area in a protocol. The review must be precise and concise. Unrelated articles in a review only serve to make the thesis bulky. This is against the trend nowadays. Most universities specify the number of pages the thesis is restricted to. An excellent review of literature brings out the lacunae in literature and helps in generating a research question for the candidate to work on.

2(e) LACUNAE IN LITERATURE

This is the most critical aspect to be tackled while selecting a topic. This reflects the candidate's diligence in reviewing the topic at hand. Only after the topic is reviewed well does the candidate or researcher find out the areas in the selected topic which need answers or are inadequately researched.

2(f) RESEARCH QUESTION

This is vital to any research proposal. Unless a valid question has been formulated by the candidate which seeks a cogent answer the whole exercise may become redundant. ONLY VALID QUESTIONS NEED TO BE RESEARCHED FOR SEEKING THE RIGHT ANSWERS.

2(g) AIMS AND OBJECTIVES

The 'Aims' refers to what would be achieved by this study or how this study would address a bigger question / issue. The 'Objectives' of the research stem from the research question formulated and should at least include participants, intervention, evaluation, design. There should be ideally a primary objective which is the main focus of the research proposal. The secondary objectives are the other aspects in the research proposal which need answers. These may include the adverse effects or the adverse events.

2(h) MATERIAL AND METHODS: This section should include the following:

(i) **Study area:** The patient recruitment area (out-patient and / or in-patient of a department in the hospital) must be listed out.

(ii) **Study population:** The target population to be enrolled in the study must be defined and then patients are selected from the target population as per the listed-out inclusion and exclusion criteria.

(iii) **Sample size**

The number of subjects to be recruited into the study must be listed out.

(iv) **Study design**

The designs are experimental, descriptive or analytical. A typical experimental design must include whether it is an open label / single blind / double blind study, whether it is an active or placebo controlled and whether it is a cross-over or parallel design (e.g., double blind, placebo controlled, parallel design).

A description of the measures taken to minimize / avoid bias including randomization and blinding, maintenance of randomization codes and procedures for breaking codes must also be listed out.

(v) **Study intervention** if any should be listed out in detail.

(vi) **Study duration**

A description regarding duration of subject participation including follow-up if any and description of discontinuation criteria must be listed out.

(vii) **Method of measurement of outcome of interest**

The outcome variable (primary and secondary) and its measurements must be defined clearly by avoiding all possible biases. The visits at which these measurements are to be assessed and recorded must be listed out.

(viii) **Data Collection Methods**

All the definitions of the variables and the quality control issues regarding them must be mentioned.

(ix) **Data Collection Forms**

All the data pertaining to the research (including the medical history, medication history and physical examination) must be entered onto to the data collection forms directly or transcribed from laboratory or other forms.

2(i) STATISTICAL METHODS

This is also a critical aspect of research. The section on statistics should include the following parts, namely, statistical hypothesis and sample size determination,

definition of analysis set, analysis of demographic data and baseline characteristics, analysis of efficacy and safety parameters. The statistics should also define the analysis sets clearly from which conclusions of the study are to be derived. It is important that the candidate decides on a sample size using the statistical formulae. Even if a sample size of convenience is used ultimately (due to time constraints in thesis) this should be reflected in the work.

2(j) ETHICAL CONSIDERATION

It must be noted that the clearance of the research proposal by the Ethics Committee is compulsory for all the studies including the ones without interventions.

2(k) REFERENCES:

Relevant references must be listed out in Vancouver style. The habit of listing cross references without even reading them must be discouraged; sometimes foreign language cross references is quoted. This is wrong. It must be seen that the references are topical and current. The thesis with majority references being very old shows that the candidate has not reviewed the topic well.

2(l) ANNEXURES

The Patient Information Sheet and the Informed Consent Form in English and Vernacular Languages, Questionnaires, Measurement tools, Data Collection Forms, etc. should be enclosed in the Annexure

3. ETHICS COMMITTEE

3(a) It is mandatory to have ethics committee approval before initiation of the research work.

3(b) The researcher should submit an appropriate application to the ethics committee in a prescribed format of the ethics committee concerned. The following documents should be submitted for review:

(i) **Research Protocol:** The research protocol prepared having all the contents required for a Thesis Protocol as per the ASSI Guidelines.

(ii) Patient Information Sheet (PIS) in English and / or vernacular languages.

(iii) The protocol must be accompanied by the PIS addressed to the subject that he is being asked to take part in a research study. The information provided to him should be in simple language which he can read and understand so that he can decide to take part in the study or refuse to take part in the study after discussing with his family doctor or his family members. The PIS must include information on the following and a copy of this must be given to the subject:

1. What is the background to and purpose of the study?
2. Do I have to take part?
3. What will happen to me if I take part?
4. What do I have to do?
5. What are the possible side effects, risks and discomforts of taking part?
6. What are the possible benefits of taking part?
7. What if new information becomes available?
8. What are the costs of taking part?
9. How will my personal data be used?
10. Will there be provision for free treatment for research related injury?
11. Will compensation be paid to the subjects if disability or death results from such injury?
12. Whom should I contact if I need more information or help?

(iv) Informed Consent Form (ICF) in English and / or vernacular languages:

The subject's informed consent should be taken on the form that he or his legally acceptable representative can read and understand. The format of the ICF must be as follows:

INFORMED CONSENT FORM (sample)

Subject identification number for this trial _____

Title of the Project:

Name of the Principal Investigator _____ Tel. No. _____

- I have received the information sheet on the above study and have read and / or understood the written information.
- I have been given the chance to discuss the study and ask questions.
- I consent to take part in the study and I am aware that my participation is voluntary.
- I understand that I may withdraw at any time without this affecting my future care.
- I understand that the information collected about me from my participation in this research and sections of any of my medical notes may be looked at by responsible persons (ethics committee members / regulatory authorities). I give access to these individuals to have access to my records.
- I understand I will receive a copy of the patient information sheet and the informed consent form.

Signature / Thumb Impression of subject

Date of signature

Printed name of the subject in capitals

Signature / Thumb Impression of legally
accepted representative

Date of signature

<<The legally acceptable representative signature should be added if the subject is a minor or is unable to sign for themselves. The relationship between the subject and the legally acceptable representative should be stated. The impartial witness signature should be added if the subject / legally acceptable representative is unable to read or write and consent should be obtained in his presence.>>

Printed name of legally acceptable representative in capitals

Relationship of legally accepted representative to subject in capitals

Signature of the person conducting the
informed consent discussion

Date of Signature

Printed name of the person conducting the
Informed consent discussion in capitals

Signature of impartial witness

Date of signature

Printed name of the impartial witness in capitals

(v) Researcher's Current CV

(vi) Any Amendment(s) to the Protocol / PIS / ICF: The amendment (s) made to the protocol / PIS / ICF can be incorporated in the research plan only after getting the ethics committee approval.

4. PROTOCOL SIZE:

The thesis protocol should be restricted to about 12-15 pages. The suggested format should include:

4(a) Title and details 1 page

4(b) Synopsis 1/2 - 1 page

4(c) Introduction and Background 1-2 pages

4(d) Review of literature and lacunae 2-3 pages

4(e) Research question and Aims and Objectives 1 page

4(f) Material and Methods 2-3 pages

4(g) References 2-3 pages

4(h) Data Collection Forms, PIS, ICF & mandatory 4-6 pages certificates

GUIDELINES FOR THESIS PREPARATION/SUBMISSION

Every candidate registered for the ASSI fellowship programme shall carry out research on an assigned project under the guidance of a recognized Chief Guide/Co-Guide. The result of this research work should be recorded, analyzed, written up and submitted in the form of a thesis. Following are some guidelines for the fellow.

1. Last date for submission of Thesis will be 30th of June of exit year. Discretion of Research Committee to accept the thesis after the above schedule: a maximum period of 15 days. No extension beyond this period is admissible under any circumstance.
2. The candidate must be allocated a guide by the Research committee within a month of his/her joining the centre.
3. The candidate has to submit the thesis protocol within three months from date of admission i.e. before 31st December of admission year.
4. The terminology to be used in Thesis protocol / Thesis shall be Chief Guide and Co-guide only. There will be only one Chief-Guide. A candidate should have only those many co-guides who are just needed for the guidance of thesis work up to a maximum of three co-guides.
5. In case a co-guide is required to be included, due to nature of research, from a nonteaching department or a department where a recognised mentor is not available, in that case; since there can be no co-guide; that department can be included as a co-investigative department and no name shall be written. Only the department name shall be written as co-investigative department in thesis protocol/thesis.
6. In case a co-guide is required to be included, due to nature of research, from an outside institution, he/she should be a recognised mentor from ASSI. He/she can be allowed to be associated as a co-guide, for that thesis only, provided the Chief Guide and the candidate seek necessary permission and is recommended by the ASSI Research Committee.
7. In case a co-guide is required to be included, due to nature of research, from

an outside institution, which is not affiliated to ASSI and the person to be taken as a co-guide is not a recognised mentor of ASSI, then the ASSI Research Committee may grant necessary permission, on recommendation of the chief guide and duly forwarded by him for the person to be associated as co-guide in that particular thesis after considering the (CV) qualification, experience and designation of the person.

- 8.** Maximum extension given for submission of thesis protocol will be one month.
- 9.** If any candidate wants to change the thesis-protocol, it may be permitted within the next three months i.e. within 6 months from the date of admission of the candidate. However, if the period exceeds 6 months, the Research committee may permit the same at its own discretion on the recommendation of the departmental faculty and chief guide up to a total period of 9 months. The total period of fellowship will, however, remain the same i.e. 2 years.
- 10.** The candidate must submit the thesis three months before the examination.
- 11.** The maximum extension for submission of thesis granted by the Research committee: up to 15 days as a special case provided the Chief guide gives adequate justification.
- 12.** No extension after 15 days shall be granted. Thesis submitted beyond this due date would entail extension of the fellowship period and a delay in the date of final examination.
- 13.** All fellows are required to forward their thesis through their chief guide with a copy of the forwarding letter to Research Committee. The Chief guide will forward the thesis immediately to the Research Committee for further processing.
- 14.** If either the Guide or Co-Guide has not signed the thesis, due to the fact that either of them happened to be abroad/foreign assignment/leave, the same may be accepted by the Research Committee if it has been signed by either the Guide or Co-Guide whichever the case may be.
- 15.** If Guide happens to be abroad on foreign assignment for a period of less than 6 months, the Co-Guide from the same centre should immediately take over

the responsibility during the period of his/her absence under intimation to the Research Committee.

16. If a Guide is away on a foreign assignment for a period of more than 6 months, the senior most of the Co-Guide of the same centre will take over the responsibility of the Guide under intimation to the Research Committee.
17. The Faculty members who have less than 2 years of service for superannuation should not be the Guide.
18. While submitting the thesis protocol the Chief Guide must ensure that there is at least one Co-Guide from the same department.
19. In the event of Superannuation of Guide or resigning/leaving/ proceeding on long leave the co-guide in the same department will be nominated as Guide and another co-guide will be nominated from the same department.
20. Those fellows who do not complete their junior residency will not be permitted to appear in the examination.
21. Period of Research work will be a minimum of 12 months from the date of sanction by ASSI Research committee.
22. **The Thesis grant of Rs. 12,000/- will be paid to the fellow after submission of thesis.**

While selecting a topic for research the following aspects should be taken care of:

1. The feasibility of conducting the study within the available time frame and Resources.
2. The study design should satisfy the statistical requirements in respect of sample size and proposed statistical analysis of data.
3. It must be ensured that the same thesis topics are not repeated year after year.
4. The thesis-protocol must accompany a disclosure/ undertaking that a similar study has not been undertaken in last five years under ASSI.
5. No obligation is to be received in any form what so ever, from the Pharmaceutical/ implant companies.
6. The study subjects/patients to be enrolled for thesis purpose, should not be asked to spend for any tests, medication etc. if they are outside the standard management.
7. The Thesis –protocol must be presented and discussed at the centre level

- before it is finalised.
8. Each thesis-protocol should be preferably (not mandatory) considered and approved by the Institutional Ethics committee (IEC) before it is submitted to the ASSI research committee
 9. One copy of the Thesis –protocol, after the approval by the IEC should be submitted by the stipulated date to the ASSI research Committee along with the ethical clearance letter.
 10. Fellows, who fail to submit the thesis- protocol by stipulated date due to any reason, except maternity leave, may face serious action like termination of fellowship if recommended by the chief guide.

Kindly note

1. The thesis work must be undertaken strictly, according to stipulated time frame as depicted above, to ensure proper scrutiny of thesis protocols, ample time for student for research, compilation, interpretation of data, writing the thesis, timely evaluation of thesis and scope of resubmission of thesis-protocol and thesis if required.
2. The completed thesis should be submitted to the ASSI research committee through chief guide by the date specified above. No extension will be granted in this regard. In case a student fails to submit the thesis in the stipulated time, he/she will be debarred from appearing in the final examination. He/she will only be permitted to appear in the supplementary examination or in the next examination.
3. It is the responsibility of the fellow, Chief guide, co-guide, to ensure timely procurement of the materials/equipment etc needed for conduct of the research and timely completion of the thesis. It is again emphasized that the students and the mentors should refrain from being unrealistic in selecting the research topic and keep all sorts of uncertainties in mind before finalizing a protocol.
4. Two hard copies of the thesis should be submitted in the following general format:

Thesis Evaluation Form

Name:

Title of Thesis:

Institute/Hospital:

Starting Date:

Finishing Date:

Number of pages:

Evaluation Criteria	Grade points**	Comments
Research Topic: The challenge and novelty of the topic for research		
Problem definition <ul style="list-style-type: none"> ▪ Definition and delimitation of the problem 		
Research design <ul style="list-style-type: none"> ▪ theoretical framework ▪ research methods 		
Execution <ul style="list-style-type: none"> ▪ scholarly level ▪ level of innovation 		
Research results <ul style="list-style-type: none"> ▪ description ▪ analysis 		
Analysis, interpretation, conclusions <ul style="list-style-type: none"> ▪ clear ▪ defensible 		
Justification of the sources and literature used		
Clearly phrased reporting		
Structure of the thesis		
Further comments		
Overall Grade		

**0=fail, 1=poor, 2=passable, 3=satisfactory, 4=good, 5=very good, 6=excellent, 7=superior

Name and signature of the evaluator:

Date:

The Exit Exam

The exit exam is held once a year. The centre for the examinations will be intimated to the fellows well in advance.

Criteria for eligibility to attend the exam

The criteria for eligibility to attend the exam, the distribution of marks and passing criteria are detailed below.

1. Submission of completed research work leading to one publication in a respected peer reviewed spinal journal. (The article should be accepted for publication)
2. Obtaining basic competency certificate (DOPS review) from the mentor.
3. When evidence of the above have been submitted to the ASSI, they will be eligible to attend the final assessment

ASSI exit exam pattern

Exam coordinator - One Senior ASSI education committee member

Secretariat- Support

4 Examiners

2 days exam

1st day Afternoon- Theory – (14:00 – 17:00 hrs)

- 3 hours paper
- 100 marks
- 10 questions 10 marks each
- Each question will be divided clearly and each part will have defined marks.

2nd day- Practical

- 4 examiners
- Long case

- 1 long case
- 1 long case has to be given to the candidate 60 minutes before the exam. Candidate will present case. Candidate will then be evaluated based on the performance.
- Short cases
 - Each candidate 2 short cases for discussion.
 - Cases have to be given one before assessment. . Candidate will present case. Candidate will then be evaluated based on the performance.

Practical exam pattern (Example)

	Batch A	Batch B
	<u>Long Case</u>	<u>Short Case</u>
9:00 am- 9:30am	Candidate 1	Candidate 2
9:30 am- 10:00 am	Candidate 3	Candidate 4
10:00am- 10:30am	Candidate 5	Candidate 6
10:30am- 11:00am	Candidate 7	Candidate 8
11:00am-11:30am	Candidate 9	

11:30-12:00pm TEA BREAK

	Batch B	Batch A
	<u>Short Case</u>	<u>Long Case</u>
12:00pm- 12:30pm	Candidate 1	Candidate 2
12:30pm- 1:00 pm	Candidate 3	Candidate 4
1:00pm - 1:30pm	Candidate 5	Candidate 6
1:30 pm-2:15 pm	Lunch break	
2:15pm- 2:45pm	Candidate 7	Candidate 8
2:45pm-3:15pm	Candidate 9	

3:30 pm- 5:45pm – Table Viva – 3 stations

Station 1(Examiner2) - Bone Model, Radiology/Orthotics

Station 2(Examiner 1) -Procedure /Approach/ Instrument / Implants

Station 3(Examiner 1) - Thesis, Log Book, Research (Each candidate will have 15 minutes at each station one after the other).

- Thesis will be evaluated by the education committee (Evaluation mark sheet will be provided to the examiners).
- The content of the log book will be used for deliberations during the table session.

6:00-7:00pm Theory paper evaluation and Result compilation

The Scoring System for ASSI Spine Fellowship Exit Examination is as below:

Part 1: Theory			
Duration: 3 hours, 100 Marks			
Part 2: Practical			
Part 2A:	1 long case	100 Marks	2 Examiners
	2 short cases	100 Marks (50 marks each)	2 Examiners
Part 2B:			
	Osteology, Radiology, Orthotics / Specimens/ Histology	40 marks	1Examiner
	Procedure /Approach, Instrument / Implants,	40 marks	1 Examiner
	Thesis, Log Book, Research	20 marks	2 Examiners
TOTAL	Theory	100 Marks	All 4 Examiners

	Practical	300 Marks	
Overall	(Theory + Practical (A+B))	400 Marks	

Pass criteria – the candidate should obtain a minimum total of 200 marks out of 400.

Miscellaneous

Clinical Work

The Fellows will work at the level of responsibility of a Senior Registrar. They are responsible for the day-to-day management of patients under the care of the Spinal unit, which includes attendance at outpatient clinics, ward rounds, and pre /post op meetings. In addition, the fellows will assist and perform surgeries at the discretion of the mentor. Fellows have a regular on-call commitment for acute spinal conditions. The day-to-day activity will be different in each centre and the fellow will adapt to the same.

Dress Code and Grooming

It is expected that the fellow will be dress appropriately when attending to patients and other clinical work. It is recommended that a formal shirt and trouser be worn, and jeans, tee shirts (round neck/ collared) be avoided. Closed formal footwear is recommended, unless otherwise approved by the mentor. The candidate should be appropriately groomed, and long hair, unkempt beard be avoided. The local hospital guidelines are to be adhered to.

Local Hospital rules

Following the rules and regulations of the local institution / hospital is mandatory. Hospital ID card is to be worn without fail. Please verify the manuals, SOPS and

reference material whenever required. In case of any clarifications regarding the SOPS and policies, please contact your mentor.

Annexure 1 (Thesis submission format)

Thesis cover (sample)



ASSOCIATION OF SPINE SURGEONS OF INDIA (ASSI)

Title of the Thesis

A Thesis Submitted In
Partial Fulfilment of the Requirements
for the "ASSI SPINE FELLOWSHIP"

NAME OF THE STUDENT

To the department of
Institution Name

MONTH & YEAR OF FELLOWSHIP

(Name of the Mentor, Designation and Place)

CERTIFICATE (sample)

This is to certify that to the best of my knowledge the thesis entitled “_____” is the result of original work done by (Student name) in partial fulfillment for the ASSI Fellowship Course.

(Name of the Mentor)

Designation and Place

CERTIFICATE (sample)

I hereby declare that the thesis entitled “ _____ ”
embodies the original work done by me at Institute’s name, Place. This work in part or full has not
been submitted to any other university/institution.

Name of the
student
Designati
on, Place

THESIS-PROTOCOL SHOULD BE SUBMITTED IN THE FOLLOWING FORMAT:

Page 1 -	No page number Signature of mentor (left side)
Page ii	Certificate Signature of mentor/guide Official Stamp / seal
Page iii-	Certificate of Ethical clearance (if any)
Page iv-	Certificate Student's signature
Page v	Acknowledgement <ul style="list-style-type: none"> • Student write name on right corner at end of acknowledgement
Page vi-	Dedication
Page vii	- Table of contents Next page - List of tables Next page - List of figures Next page - List of graphs
Next page	- List of abbreviations Chapter 1 - Introduction <ul style="list-style-type: none"> i) Describe the problem under consideration (disease/condition) briefly, ii) Discuss about „What is known? and „What are the gaps? “ summarize thereview of literature briefly, iii) Write about the research question and its importance. How would answeringthis research question modify the current state of knowledge? iv) Conclude this section by stating how the proposal plans to answer the question which should be focused, measurable, achievable and relevant, clearand precise <ul style="list-style-type: none"> ● Aims and objectives: “Aims“ refer to what would be achieved by this study or how this study would address a bigger question/issue. “Objectives“ refer to whatwould you actually do in this study ● Hypothesis ● Significance of the Study
Chapter 2	- Review of Literature <ul style="list-style-type: none"> ▪ Summarize the knowledge about the magnitude of the problem under consideration (disease/condition), ▪ Discuss the relevant pathophysiology/pathology (do not include textbook

material – very obvious facts),

- Review available studies on the subject/intervention related to research question. It is good to provide a summary table of the relevant studies wherever required,
- Write a summary of the review- „What is already known about the subject?
- Identify relevant gaps in knowledge,
- This should facilitate writing a para on „Rationale for the study“ which should be concluding part of the review of literature.
- The available literature should be listed in chronological order and write in your own words rather than reproducing the para from the sources.
- Presentation of review of literature should be in Vancouver Style and names of authors should be avoided in text and the reference number should be super-scripted at the end of each sentence preceded by full stop.

Chapter 3 - Methods

The methodology should mention:

- Study design and setting: Descriptive, analytical or interventional,
 - Sample size which is adequate,
 - Duration of study including collecting of data, analysis, writing and final submission,
 - Method of recruitment, Inclusion and Exclusion Criteria
 - Sampling technique,
 - Type of Intervention, if any,
 - Method of follow up and tools used for assessment,
 - Procedure for recording/controlling confounding variable, if any.
- Standardization of method and reference to methodology should be given wherever necessary.

Chapter 4 - Data Analysis

Statistical analysis: Mention procedure for data entry, statistical methods/software For statistical analysis, methods for handling missing data etc.

Chapter 5 - Results

- Chapter 6 - Discussion
 Results are to be discussed and justification to be given. Clinical relevance
 Limitations of the study Future Research
- Chapter 7 - Conclusion

References (no chapter number) – but like separate chapter: In Vancouver style only. Appendices
 (no chapter number) – but like separate chapter

Appendix A : Evaluation Performa (if any)

Appendix B : Consent Forms/Patient Information Sheet (PIS) (if any): Both Hindi and English.

The patient information sheet should clearly state the purpose of study, gain expected out of the study, procedures and tests to be done, how will they be done, side effects or risks if any etc) refer sample at the end of the document.

Appendix C : Data Collection Form Appendix D : Scales / Tools (if any) Appendix E
 : Master chart

* Every appendix name to be written like a chapter name (e.g. Appendix A evaluation Performa) in the middle of page, all capitals, size 14.

No Bold font

Text – Times New Roman (Font)

- Font Size -12
- Double line spacing
- Single tab for starting new Para
- Left margin – 1.5" / 3.8 cm
- Chapter Number & Name
 - Size 14
 - Middle of page
 - No page number on it
 - All capital
- Headings
 - Running Style (1st alphabet for each word capital other small)
 - Centre
- Subheading
 - Running
 - Underlined
 - Centre

- Further heading
 - Left side with colon at the end
- Headings for bar graph, figures, flow chart
 - Bottom, centre
- Headings for tables
 - Top, centre
- References
 - Vancouver style

INFORMED CONSENT FORM (ICF)

Study Title:

Study Number: _____ Subject's Initials: _____ Subject's name: _____

Date of Birth / Age: _____

Please initial box (Subject) (i) I confirm that I have read and understood the information sheet dated _____ for th	[]
(ii) I understand that my participation in the study is voluntary and that I am free to withdraw at anytime, without giving any reason, without my medical care or legal rights being affected. (iii) The procedures required for the study and the time involved have been explained to me, and any questions I have about the study have been answered to my satisfaction.	[]
(iv) I understand that the Principal Investigator/Site Investigator of the study, others working on his/her behalf, the Ethics Committee and the regulatory authorities will have access to my health records both in respect of the current study and any further research that may be conducted in relation to it. I agree to this access. However, I understand that my identity will not be revealed in any information released to third parties or published.	[]
(v) I agree not to restrict the use of any data or results that arise from this study provided such a use is only for scientific purpose(s)	[]
(vi) I agree to take part in the above study	[]

Signature of participant

Print name/thumb impression and Date

Signature of Impartial Witness

Print name/ thumb impression and Date

Signature of Legal Acceptable Representative
(LAR)

Print name/ thumb impression and Date

Signature of site investigator

Print name/ thumb impression and Date

PATIENT INFORMATION SHEET (PIS): KEY POINTS TO BE INCLUDED

1. What is the study about? What is the purpose of study?
2. Who is carrying out the study?
3. What does the study involve? Any invasive procedure will be done?
4. How much time will the study take?
5. What are my responsibilities during the conduct of trial/study?
6. Can I withdraw from the study?
7. If I withdraw from the study will my treatment be affected?
8. Will my name or full house address be identifiable?
9. Are there any associated risks with the study, including adverse reactions?
10. Will the study benefit me?
11. Whom should I contact if I require further information about the study or my involvement in it?
12. Whom should I contact if I have a complaint or any concern?

Annexure 2 (Log book format)

Log book cover (sample)



LOG BOOK

ASSI FELLOWSHIP
(SPINE SURGERY)

Submitted By

Under the guidance of

(Institute logo)

Certificate (sample)

This is to certify that ...(name)..... has documented details of his work done in the department of spine surgery from to at (Institute).

This log book is a correct and true record of his training in fulfilling the requirements of the ASSI fellowship programme

Head of department

INDEX (sample)

Sl. No.	Topics	Pages
1.	Fellowship Details	
2.	Personal Details	
3.	Surgeries performed/assisted/observed during fellowship	
4.	Clinical case presentations	
5.	Symposia	
6.	Journal club	
7.	CMEs/Conferences attended	
8.	Presentations in Conferences / CME	
9		

FELLOWSHIP DETAILS

INSTITUTE:

DEPARTMENT:

DATE OF JOINING:

DATE OF COMPLETION:

CONSULTANTS:

PERSONAL DETAILS

NAME:

DATE OF BIRTH:

QUALIFICATION:

PERMANENT ADDRESS:

CONTACT NO.:

EMAIL:

INSTITUTE OF TRAINING:

All the details in the log book are to be documented in the following format under relevant headings

List of Surgeries Assisted / Performed

Serial No	Patient Details	Hospital No	Date of Surgery	Diagnosis	Procedures
1					
2					

Clinical Case Presentations

Serial No	Date	Topic	Presenter	Moderator
1				
2				

Symposia

Serial No	Date	Topic	Presenter	Moderator
1				
2				

Journal Club

Serial No	Date	Topic	Presenter	Moderator
1				
2				

Conferences/ CME attended

Serial No	Title of conference/ CME	Date / Place/ virtual
1		
2		

Presentation in Conferences / CME

Serial No	Date	Title of conference/ CME	Topic presented	Remarks
1				
2				

Projects: Research and Chapters

Serial No	Title of conference/ CME	Date / Place/ virtual
1		
2		