Sri Lakshmi Narayana Institute of Medical Sciences

Date 3/1/2022

From
Dr K Balagurunathan,
Professor and Head,
General Surgery,
Sri Lakshmi Narayana Institute Of Medical Sciences
Bharath Institute of Higher Education and Research,
Chennai.

To
The Dean,
Sri Lakshmi Narayana Institute Of Medical Sciences
Bharath Institute of Higher Education and Research,
Chennai.

Sub: Permission to conduct value-added course: LOCAL ANESTHESIA TECHNIQUES

Dear Sir,

With reference to the subject mentioned above, the department proposes to conduct a value-added course titled: **LOCAL ANESTHESIA TECHNIQUES, 30 hours course** on **FEB 2022**

We solicit your kind permission for the same.

Kind Regards

PROFESSOR & HOD
DEPARTMENT OF GENERAL SURGERY
Sri Lakshmi Narayana Institute of Medical Sciences
PONDICHERRY - 605 502

DR K BALAGURUNATHAN

HOD, GENERAL SURGERY

FOR THE USE OF DEANS OFFICE

Names of Committee members for evaluating the course:

The Dean: DR G. JAYALAKSHMI

The HOD: DR K BALAGURUNATHAN

The Expert: DR ASAYAS BOSCO CHANDRA KUMAR

The committee has discussed about the course and is approved.

Dr. G. JAYALAKSHMI, B.Sc., M.B.B.S., D.T.C.D., M.D.,
DEAN
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Agaram, Kudapakkam Post,
Villianur Commune, Puducherry - 605502.

Dean

(Sign & Seal)

Professor General Surgery
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Kudapakkam, Puducherry-605 502

Subject Expert

(Sign & Seal)

PROFESSOR & HOD
DEPARTMENT OF GENERAL SURGERY
Sri Lakshmi Narayana Institute of Medical Sciences
PONDICHERRY - 605 502

HOD

(Sign & Seal)

OFFICE OF THE DEAN

Sri Lakshmi Narayana Institute of Medical Sciences

OSUDU, AGARAM VILLAGE, VILLIANUR COMMUNE, KUDAPAKKAM POST,
PUDUCHERRY - 605 502.

[Recognised by Medical Council of India, Ministry of Health letter No. U/12012/249/2005-ME (P -II) dt. 11/07/2011]
[Affliated to Bharath University, Chennai - TN]

Circular

07.01.2022

Sub: Organising Value-added Course: LOCAL ANESTHESIA TECHNIQUES

With reference to the above mentioned subject, it is to bring to your notice that Sri Lakshmi Narayana Institute of Medical Sciences, **Bharath Institute of Higher Education and Research** is organizing a value added course on **"LOCAL ANESTHESIA TECHNIQUES"**.

The application must reach the institution along with all the necessary documents as mentioned. The hard copy of the application should be sent to the institution by registered/ speed post only so as to reach on or before 1ST FEBRUARY 2022. Applications received after the mentioned date shall not be entertained under any circumstances.

Dr. G. JAYALAKSHMI, BSC., MBBS., DTCD., M.D.,
DEAN
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Agaram, Kudapakkam Post,
Villianur Commune, Puducherry-605502.

Dean

Course Proposal

Course Title: LOCAL ANESTHESIA TECHNIQUES

Course Objective:

1. Introduction
2. Local anesthetic agents
3. Local anesthetic toxicity
4. Preparation of LA solutions
5. Use of peripheral nerve stimulators and nerve block
6. Cervical plexus block
7. Interscalene block
8. Femoral nerve block
9. Intravenous regional anesthesia
10. Technique for intravenous regional anesthesia
11. Hands on training

Course Outcome:

Course Audience: MBBS UNDERGRADUATES

Course Coordinator: DR ASAYAS BOSCO CHANDRA KUMAR

Course Faculties with Qualification and Designation:

1. **Dr Asayas Bosco Chandra Kumar , Prof General Surgery**
2. **Dr K Balagurunatha, Prof and HOD General Surgery**

Course Curriculum/Topics with schedule (Min of 30 hours)

SlNo	Date	Topic	Time	Hours	Faculty
1.	12/2/2022	1. Introduction	4-6PM	2	**Dr Asayas Bosco**

2.	15/2/2022	2. Local anesthetic agents	4-7PM	3	**Dr K Balagurunatha**
3.	18/2/2022	3. Local anesthetic toxicity	4-6PM	3	**Dr Asayas Bosco**
4.	21/2/2022	4. Preparation of LA solutions	4-6PM	2	**Dr K Balagurunatha**
5.	25/2/2022	5. Use of peripheral nerve stimulators and nerve block	4-7PM	3	**Dr Asayas Bosco**
6.	3/3/2022	6. Cervical plexus block	4-7PM	3	**Dr K Balagurunatha**
7.	6/3/2022	7. Interscalene block	4-7PM	3	**Dr Asayas Bosco**
8.	9/3/2022	8. Femoral nerve block	4-6PM	2	**Dr K Balagurunatha**
9.	12/3/2022	9. Intravenous regional anesthesia	4-6PM	2	**Dr Asayas Bosco**
10.	15/3/2022	10.Technique fr intravenous regional anesthesia	4-7PM	3	**Dr K Balagurunatha**
11.	18/3/2022	11. Hands on training	4-6PM	2	**Dr Asayas Bosco**
12.	20/3/2022	11. Hand on training	4-6PM	2	**Dr K Balagurunatha**
			TOTAL HOURS	30	

REFERENCE BOOKS: (Minimum 2)

1. **Schwartz's Principles of Surgery, 11th Edition**
2. **Bailey And Love's Short Practice of Surgery 27th Ed**

VALUE ADDED COURSE

1. Name of the programme & Code

LOCAL ANESTHESIA TECHNIQUES GS06

2. Duration & Period

30 hrs & FEB 2022

3. Information Brochure and Course Content of Value Added Courses

Enclosed as Annexure- I

4. List of students enrolled

Enclosed as Annexure- II

5. Assessment procedures:

Multiple choice questions- *Enclosed as Annexure- III*

6. Certificate model

Enclosed as Annexure- IV

7. No. of times offered during the same year:

1 TIME , FEB 2022

8. Year of discontinuation: 2022

9. Summary report of each program year-wise

Value Added Course- FEB 2022					
Sl. No	**Course Code**	**Course Name**	**Resource Persons**	**Target Students**	**Strength & Year**
1	GS06	LOCAL ANESTHESIA TECHNIQUES	Dr.ASAYAS BOSCO CHANDRA KUMAR	MBBS	20 2022

10. Course Feed Back

Enclosed as Annexure- V

Professor General Surgery
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Kudapakkam, Puducherry-605 502.

RESOURCE PERSON

DR ASAYAS BOSCO CHANDRAKUMAR

(PROF GENERAL SURGERY)

PROFESSOR & HOD
DEPARTMENT OF GENERAL SURGERY
Sri Lakshmi Narayana Institute of Medical Sciences
PONDICHERRY - 605 502

CO-ORDINATOR

DR K BALAGURUNATHAN

(HOD GENERAL SURGERY)

LOCAL ANESTHESIA TECHNIQUES

PARTICIPANT HAND BOOK

BIHER

SLIMS

COURSE DETAILS

Particulars	Description
Course Title	Local anaesthesia techniques
Course Code	GS06
Objective	1. Introduction 2. Local anaesthetic agents 3. Local anaesthetic toxicity 4. Preparation of LA solutions 5. Use of peripheral nerve stimulators and nerve block 6. Cervical plexus block 7. Interscalene block 8. Femoral nerve block 9. Intravenous regional anaesthesia 10.Technique for intravenous regional anaesthesia 11. Hands on training
Further learning opportunities	
Key Competencies	On successful completion of the course the students will have skill in administering local anesthesia
Target Student	Final year MBBS Students
Duration	30hrs FEB 2022- JUNE 2022
Theory Session	10hrs
Practical Session	20hrs
Assessment Procedure	Multiple choice questions

Local anaesthesia is widely used, as a sole technique or as an adjunct to general anaesthesia. Local anaesthetic agents are potentially dangerous, and a knowledge of safe doses and of the management of suspected toxicity is paramount.
These subjects are discussed, together with examples of a few blocks in common use.

Operative procedures are frequently undertaken under local anaesthesia (LA), both in and out of theatre. LA techniques are well suited to minor procedures, and cause less systemic upset than general anaesthesia.

LA agents may be administered in a variety of ways according to the required area of analgesia:

1. Topical anaesthesia: application of LA to the skin, and to the mucous membranes of the conjunctival sac, mouth, nose, tracheobronchial tree and urethra
2. Local infiltration: direct injection of LA into the operative site
3. Field block: injection of LA around the operative site, so as to create an analgesic zone
4. Individual peripheral nerve blocks: e.g. median, ulnar, femoral or pudendal nerves
5. Regional block: injection of LA around nerve trunks supplying the region to be operated upon, e.g. brachial plexus block.
6. Neuroaxial blocks: spinal and epidural anaesthesia
7. Intravenous regional anaesthesia: injection of a large, dilute LA volume into the veins of a previously exsanguinated limb.

LOCAL ANAESTHETIC AGENTS

Various LA agents are available, and are classified into two groups – esters and amides – according to the structure of their carbonyl linkage group. The agents in most common clinical use (lidocaine, bupivacaine and prilocaine) are all amides.

LAs block sodium channels to cause a reversible interruption of nerve impulse conduction. Most are weak bases and will exist in both ionized and unionized forms according to the pH of the tissue fluid. LAs are relatively ineffective in an acid pH (e.g. inflamed or infected tissues), in which the ionized (non-lipid soluble) form predominates.

Addition of a vasoconstrictor (e.g. adrenaline (epinephrine)) prolongs the duration of action of LAs. Epinephrine is added to LA in concentrations ranging from 1:80 000 to 1:300 000. The commonest strength is a 1:200 000 (5 mg per ml) concentration of adrenaline (epinephrine) (Box 2.14). Adrenaline (epinephrine) may cause tachycardia and hypertension, and should be used with caution in patients with cardiovascular disease. The use of adrenaline (epinephrine) is absolutely contraindicated in areas supplied by end arteries (e.g. digits, penis).

Important features of the different LA agents are summarized in Table 2.2. It is always sensible to calculate the maximum safe dose for the individual patient: for example, the maximum safe dose of lidocaine is 3 mg/kg without adrenaline (epinephrine) and 7 mg/kg with adrenaline (epinephrine).

In a 70 kg adult, therefore, the maximum safe dose of plain lidocaine is 210 mg. This equates to 21 ml of a 1% solution (10 mg/ml). If larger volumes are required, the concentration should be reduced, or adrenaline (epinephrine) added.

Box 2.14 Preparation of LA solutions

0.25% bupivacaine contains 0.25 g per 100 ml solution, i.e. 2.5 mg per ml

Adrenaline (epinephrine) 1:1000 contains 1 g of adrenaline (epinephrine) in 1000 ml of solution, i.e. 1 mg/ml

To prepare a 1:200 000 solution, the 1:1000 solution must be diluted 200 times. This can be achieved by taking 0.1 ml (= 0.1 mg) and adding 19.9 ml of LA solution

TABLE 2.2 A comparison of commonly used local anaesthetic agents

	Lidocaine	Bupivacaine	Prilocaine
Onset	Rapid onset	Slower in onset	Intermediate
Duration	Short-acing	Longer acting	Short-acting
Preparations	0.5–2% (5–20 mg/ml) for infiltration 4% (40 mg/ml) topical	0.25–0.5% (2.5–5 mg/ml)	0.5% (5 mg/ml) for intravenous regional anaesthesia (IVRA) 0.5–1% for infiltration 1–2% for blocks
Maximum safe dose	3 mg/kg (plain) 7 mg/kg (with adrenaline (epinephrine))	2 mg/kg (with or without adrenaline (epinephrine))	6 mg/kg (plain) 8 mg/kg (with felypressin)
Typical uses	Local infiltration Treatment of arrhythmias	Nerve blocks/epidurals	IVRA
Adverse effects		Most cardiotoxic	Methaemoglobinaemia

LOCAL ANAESTHETIC TOXICITY

All local anaesthetics may exert toxic effects if administered in excess of the safe maximal dose. Systemic absorption is influenced by the site of injection (more rapid in vascular tissues, e.g. intercostal blocks) and by the addition of adrenaline (epinephrine) (slows absorption). Inadvertent intravascular injection may cause rapid cardiovascular and central nervous system collapse.

Strategies to reduce the risk and/or impact of LA toxicity include:

1. Ensure patent IV access, availability of resuscitation equipment and presence of a trained assistant before LA administration
2. Use the least toxic drug, in the lowest dose, and reduce doses in the elderly and frail
3. Calculate the dose carefully (this point cannot be overstated!)
4. Inject slowly, aspirating during injection in case of inadvertent vascular puncture.

LA toxicity typically presents with clinical features relating to the central nervous and cardiovascular systems:

- CNS: lightheadedness, dizziness, taste disturbance, tinnitus, circumoral paraesthesiae; progressing to agitation, convulsions, coma and respiratory arrest
- CVS: hypotension, myocardial depression, arrhythmias and cardiac arrest.

Initial management

1. Stop injecting the LA and call for help
2. Assess patient according to ABC principles
3. Maintain the airway: if necessary, secure it by endotracheal intubation
4. Give 100% oxygen and ensure adequate ventilation
5. Confirm or establish IV access: administer fluids_vasopressors
6. Control seizures with thiopentone or benzodiazepines
7. If the patient is in cardiac arrest, perform cardiopulmonary resuscitation (CPR) according to ALS protocol.

Use of Intralipid®

The use of Intralipid® may reverse LA toxicity. CPR should be continued throughout treatment with lipid emulsion. Recovery may take more than an hour.
The Association of Anaesthetists of Great Britain and Ireland has produced comprehensive guidelines (2010)1 detailing the management of severe local anaesthetic toxicity and the use of lipid emulsion:

Immediately:

- give an initial intravenous bolus injection of 20% lipid emulsion in a dose of 1.5 ml/kg over 1 min
- start an intravenous infusion of 20% lipid emulsion at 15 ml/kg/h

After 5 min:

- give a maximum of two repeat boluses (same dose, 5 min apart) if circulation not restored

- continue infusion (doubling the rate if stability not restored) until stable or maximum dose (12 ml.kg-1) is reached.

CERVICAL PLEXUS BLOCK

This technique is used for awake carotid artery surgery, and may combine deep and superficial plexus blocks:

- Deep: identify the lateral border of the sternomastoid at the level of the thyroid cartilage (C4) and feel for the interscalene groove. Aim the needle in a caudal and medial direction 10–20 mm towards the contralateral elbow, until paraesthesiae are felt or contact made with the C4 transverse process. After aspiration, inject 8–10 ml of LA solution. Complications include blockade of the phrenic nerve, recurrent laryngeal nerve and stellate ganglion
- Superficial: the superficial plexus is blocked by a 10 ml 'sausage-shaped' injection along the posterior border of sternomastoid.

INTERSCALENE BLOCK

This block is useful for shoulder and upper arm surgery. The needle passes between the anterior and middle scalene muscles and achieves a high brachial plexus block.
Identify the posterior border of sternomastoid at the level of the cricoid cartilage (C6). The interscalene groove is just behind sternomastoid. Introduce the needle slightly caudad, medial and posterior, to a depth of no more than 1–2 cmand,

after aspiration, inject 30 ml of LA solution. Phrenic nerve block is a frequent occurrence, and caution should be exercised in patients with respiratory disease.

FEMORAL NERVE BLOCK

This block is used in knee and anterior thigh surgery. Locate the groin crease (1 cm below the inguinal ligament) and insert the needle 1 cm lateral to the femoral pulse and 450 cephalad, to a depth of 3–5 cm.

USE OF PERIPHERAL NERVE STIMULATORS AND ULTRASOUND

The use of nerve stimulators and, more recently, ultrasound, has improved the accuracy and safety of regional techniques, and hence their popularity. It remains imperative, however, to have a sound knowledge of the underlying anatomy.

INTRAVENOUS REGIONAL ANAESTHESIA

Intravenous regional anaesthesia (IVRA) was first described for forearm anaesthesia (Bier's block), but can also be used on the lower limb and for sympathetic blocks in chronic pain states. A dilute solution of LA is injected intravenously into an exsanguinated limb kept isolated by a tourniquet cuff from the rest of the circulation.

The block is technically simple (Box 2.15) yet potentially dangerous: escape of LA into the systemic circulation may cause severe toxicity. Prilocaine 0.5% (without adrenaline (epinephrine)) is thought to be the safest agent (maximum 6 mg/kg or up to 300 mg).

The most important potential complication is systemic LA toxicity from cuff failure. The tourniquet may produce pressure-related damage. The technique is not suitable in the grossly obese, in hypertensive patients (systolic BP>200 mmHg) or in those with peripheral vascular disease.

Box 2.15 Technique for intravenous regional anaesthesia

- Insert two IV cannulae, one into each hand
- Exsanguinate limb with Esmarch bandage
- Apply double cuff proximal tourniquet and inflate upper cuff to 100 mHg above systolic pressure then remove Esmarch bandage
- Inject LA solution slowly into exsanguinated limb via cannula
- After 10 minutes, inflate lower cuff to above systolic pressure then release upper cuff (improves patient comfort, since the arm beneath the lower cuff will now be anaesthetized)
- Pay *constant* attention to cuff inflation throughout the procedure
- At the end of the procedure, after a minimum of 20 minutes, deflate lower cuff.

Assessment Procedure

Multiple choice questions based assessment after successful completion of theory and practical sessions

VALUE ADDED COURSE
LOCAL ANESTHESIA TECHNIQUES GS06

List of Students Enrolled FEB 22

MBBS Student			
Sl. No	Name of the Student	Roll No	Signature
1	GOWTHAM.M.R	U15MB290	
2	GOWTHAM S	U15MB291	
3	HARIHARAN S	U15MB292	
4	HARINI .L	U15MB293	
5	ILAMATHI.S	U15MB294	
6	ILAYARAJA.B.U	U15MB295	
7	JAMZER.J	U15MB296	
8	JANARTHANAM.M	U15MB297	
9	JANISHA MARAGATHA JP	U15MB298	
10	JAWATH.S	U15MB299	
11	JAYA AKSHAIY.J	U15MB300	
12	JAYABHARATHI.M	U15MB301	
13	JAYAMATHI.A	U15MB302	
14	KAILASAM.S	U15MB303	
15	KAMESHWARAN.G	U15MB304	
16	KARUNYA JOSEPHINE	U15MB305	
17	KASANKANTH.V	U15MB306	
18	KATHIRAVAN G	U15MB307	
19	KAVIN SHANMUGAVEL.R	U15MB308	
20	KEERTHIGA SP	U15MB309	

Janisha Maragatha JP
U15MB298

SRI LAKSHMI NARAYANA INSTITUE OF HIGHER EDUCATON AND RESEARCH

Annexure - IV

LOCAL ANESTHESIA TECHNIQUES

MULTIPLE CHOICE QUESTIONS

Course Code: GS06

I. ANSWER ALL THE QUESTIONS

1. application of LA to the skin, and to the mucous membranes is known as

   a. topical anaesthesia

   b. local infiltration

   c. field block

   d. none

2. injection of LA around the operative site, so as to create an analgesic zone is known as

   a. topical anaesthesia

   b. local infiltration

   c. field block

   d. none

3. injection of LA around nerve trunks supplying the region to be operated upon,

   a. topical anaesthesia

   b. local infiltration

   c. field block

   d. regional block

4. injection of a large, dilute LA volume into the veins of a previously exsanguinated limb

   a. intravenous regional anaesthesia

   b. local infiltration

   c. field block

d. None of the above

5. addition of epinephrine to local anaesthetic agent

a. prolongs the duration

b. shortens the duraton

c. no effect

d. None of the above

6.intermediate acting local anesthetic agent

a. prilocaine

b. bupivacaine

c. Both A & B are Correct

d. None of the above

7. short acting local anesthetic agent?

a. prilocaine

b. bupivacaine

c. lidocaine

d. All the above are correct

7/7

ASSESSOR NAME :

SIGNATURE : 21/3/2022

DATE :

Dr. M. SENTHILVELAN, MS.,
Reg. No 53175
Professor General Surgery
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Kudapakkam, Puducherry-605 502

GOWTHAM MR
U15MB290

SRI LAKSHMI NARAYANA INSTITUE OF HIGHER EDUCATON AND RESEARCH

Annexure - IV

LOCAL ANESTHESIA TECHNIQUES

MULTIPLE CHOICE QUESTIONS

Course Code: GS06

I. ANSWER ALL THE QUESTIONS

1. application of LA to the skin, and to the mucous membranes is known as

   (a) topical anaesthesia

   b. local infiltration

   c. field block

   d. none

2. injection of LA around the operative site, so as to create an analgesic zone is known as

   a. topical anaesthesia

   (b) local infiltration

   c. field block

   d. none

3. injection of LA around nerve trunks supplying the region to be operated upon,

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   b. local infiltration

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   d. regional block

4. injection of a large, dilute LA volume into the veins of a previously exsanguinated limb

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d. None of the above

5. addition of epinephrine to local anaesthetic agent

(a) prolongs the duration

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6.intermediate acting local anesthetic agent

(a.) prilocaine

b. bupivacaine

c. Both A & B are Correct

d. None of the above

7. short acting local anesthetic agent?

a. prilocaine

(b.) bupivacaine

c. lidocaine

d. All the above are correct

ASSESSOR NAME :

SIGNATURE

DATE 21/3/22

Dr. M. SENTHILVELAN, MS.,
Reg. No 53175
Professor General Surgery
Sri Lakshmi Narayana Institute of Medical Scienc
Osudu K...

Sri Lakshmi Narayana Institute of Medical Sciences

Affiliated to Bharath Institute of Higher Education & Research
(Deemed to be University under section 3 of the UGC Act 1956)

CERTIFICATE OF MERIT

This is to certify that HARINI L has actively participated in the Value Added Course on LOCAL ANESTHESIA TECHNIQUES held during FEB 2022 Organized by Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry- 605 502, India.

Professor General Surgery
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Kudapakkam, Puducherry-605 502.

Dr.Asayas Bosco Chandra Kumar
RESOURCE PERSON

PROFESSOR & HOD
DEPARTMENT OF GENERAL SURGERY
Sri Lakshmi Narayana Institute of Medical Sciences
PONDICHERRY - 605 502

DR K BALAGURUNATHAN

COORDINATOR

Student Feedback Form

Course Name: **LOCAL ANESTHESIA TECHNIQUES**

Subject Code: **GS06**

Name of Student: Gowtham. MR. Roll No.: 1IMB290

We are constantly looking to improve our classes and deliver the best training to you. Your evaluations, comments and suggestions will help us to improve our performance

Sl. NO	Particulars	1	2	3	4	5
1	Objective of the course is clear				✓	
2	Course contents met with your expectations				✓	
3	Lecturer sequence was well planned				✓	
4	Lectures were clear and easy to understand				✓	
5	Teaching aids were effective					✓
6	Instructors encourage interaction and were helpful					✓
7	The level of the course					✓
8	Overall rating of the course	1	2	3	4	5

** Rating: 5 – Outstanding; 4 - Excellent; 3 – Good; 2– Satisfactory; 1 - Not-Satisfactory*

Suggestions if any:

Date: 20/03/2022

Gowtham. MR.
Signature

Student Feedback Form

Course Name: **LOCAL ANESTHESIA TECHNIQUES**

Subject Code: **GS06**

Name of Student: HARINI.L Roll No.: U15MB293.

We are constantly looking to improve our classes and deliver the best training to you. Your evaluations, comments and suggestions will help us to improve our performance

Sl. NO	Particulars	1	2	3	4	5
1	Objective of the course is clear					✓
2	Course contents met with your expectations		✓			
3	Lecturer sequence was well planned			✓		
4	Lectures were clear and easy to understand				✓	
5	Teaching aids were effective			✓		
6	Instructors encourage interaction and were helpful					✓
7	The level of the course			✓		
8	Overall rating of the course	1	2	3	4	5 ✓

** Rating: 5 – Outstanding; 4 - Excellent; 3 – Good; 2– Satisfactory; 1 - Not-Satisfactory*

Suggestions if any:

Date: 20/3/2022

Harini
Signature

Date 9/6/2022

From
Dr K Balagurunathan
Professor and Head,
General Surgery,
Sri Lakshmi Narayana Institute Of Medical Sciences
Bharath Institute of Higher Education and Research,
Chennai.

Through Proper Channel

To
The Dean,
Sri Lakshmi Narayana Institute Of Medical Sciences
Bharath Institute of Higher Education and Research,
Chennai.
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Sub: Completion of value-added course: LOCAL ANESTHESIA TECHNIQUES

Dear Sir,

With reference to the subject mentioned above, the department has conducted thevalue-added course titled: **LOCAL ANESTHESIA TECHNIQUES** for 20students IN FEB 2022. We solicit your kind action to send certificates for the participants, that is attached with this letter. Also, I am attaching the photographs captured during the conduct of the course.

Kind Regards

PROFESSOR & HOD
DEPARTMENT OF GENERAL SURGERY
Sri Lakshmi Narayana Institute of Medical Sciences
PONDICHERRY - 605 502

Dr. K BALAGURUNATHAN

HOD General Surgery

Encl: Certificates

Photographs