



राष्ट्रीय आयुर्वेद संस्थान
मानद विश्वविद्यालय

(आयुष मंत्रालय, भारत सरकार)

माधव विलास पैलेस, जोरावर सिंह गेट, आमेर रोड, जयपुर-302002

NATIONAL INSTITUTE OF AYURVEDA

Deemed to be University (De novo)

(Ministry of AYUSH, Govt. of India)

Madhav Vilas Palace, Jorawar Singh Gate, Amer Road, Jaipur-302002

Tel. 2635744 (EPABX) Fax : 2635709

Notice Inviting Expression of Interest (EOI)

For Setup of ICU in Hospital

NIA Jaipur intends to setup ICU for its hospital. EOI is invited from the eligible firms for setting-up ICU in the Hospital.

The interested firms may visit our website: <https://www.nic.in> for more details. Last date for submission of EOI in sealed envelope is 26.12.2022 till 10:00 A.M. and representatives of the interested firms may visit NIA Jaipur to submit their presentations before the committee constituted for the purpose on 26.12.2022 at 11:00 AM onwards.

Joint Director (Admn.)

1. Invitation for Expression of Interest

The Vice Chancellor, NIA Jaipur invites EOIs from reputed Companies/Organizations (hereafter referred as 'Agencies') to setup the ICU in its Hospital. Jaipur will provide the building structure to the agency/agencies identified for setting up ICU in the Hospital.

The project information and the broad scope of work are detailed in this document. Interested agencies fulfilling the minimum qualification criteria as stated in the EOI, may send their complete details as per details given in this EOI document on or before **26.12.2022** till 10:00 AM to the following address by post/hand in a sealed envelope super scribing "**Expression of Interest (EOI) for Setting-up ICU**" for short-listing the interested parties for the Request For Proposal (RFP):

The Vice Chancellor
National Institute of Ayurveda Deemed to be University
Jorawar Singh Gate, Old Amer Road
<http://www.NIA.in>

For any further queries and clarifications, the agencies may contact Mr. Mohan Lal Meena, Store Officer on Telephone No 0141-2632815, 09829437130 or on e-mail id: nia.centralstore7@gmail.com

**Proposal for Setting up an Intensive Care Unit (ICU) at National Institute of
Ayurveda Hospital Jaipur**

Background

National Institute of Ayurveda is one of the premier autonomous institutes established in 1976 under the aegis of Ministry of Ayush, Government of India. On 13th November 2020, Honorable Prime Minister Sh. Narendra Modi declared and dedicated the institute as Deemed to be university under De novo category to the nation. Institute since the time of its inception is meeting the healthcare needs of the society through its hospital which has been accredited by NABH since November 2017. In last five years, 11,94,285 outdoor and 2,37,965 (2017- 21) indoor consultations were provided by the hospital. In addition to clinical services, university is also involved in teaching and research activities. Every year 130 graduate students, 130 post graduate, 28 PhD scholars, and 30 Ayurveda nursing and pharmacy students are admitted to the institute. In addition, university is also offering 6 M.Sc. interdisciplinary courses and various certificate and short term courses.

Recently, the grave pandemic of covid-19 was witnessed across the globe, lot of human lives were lost and health infrastructure of all the major economies was felt insufficient to cater the medical needs of the society. Lot of efforts were put in by our government but same was experienced in our country too. Lack of skilled manpower in areas like triaging, care of highly infectious cases, oxygen therapy, non-invasive and invasive ventilation etc. was another area which came into picture amidst covid-19 crisis.

National Institute is catering the health needs of the society through Ayurveda, often due to lack of facility to handle some critical patients, failure in exploring the effects of Ayurvedic treatment in such cases is experienced and cases need to be referred to higher setups with facility of an ICU. In addition to this, students have also demanded time to time their need of exposure to diagnosis and management of critical patients. Furthermore, government of India has also envisioned creating integrated healthcare system in country.

Kayachikitsa is one of the prominent clinical department of the institute involved in clinical, academic and research activities. It is one of the oldest post graduate department which has prominent alumni working in various capacities nationally as well as globally. It has the highest number of faculty and post graduate scholars at the institute. We have capable manpower to deliver high quality clinical services to the patients. Considering all these facts, we are planning to develop an intensive care unit at our hospital which will not only enhance the healthcare services received by the patients but also enhance the skills of Ayurveda students who can serve the society in a better and more efficient way.

This document is submitted as a proposal for developing an ICU at National Institute of Ayurveda Jaipur.

Aim

To setup an Intensive Care Unit to strengthen the healthcare delivery and upgrade the skills of Ayurveda scholars studying at National Institute of Ayurveda Jaipur.

Objectives

Setting up of an ICU is proposed with following objectives -

- To enhance the healthcare services received by the society.
- To provide an exposure and upgrade the skills of Ayurveda undergraduate, post graduate, doctoral scholars and nursing and pharmacy students.
- To develop an infrastructure where Ayurveda treatment modalities can be provided to critical cases.
- To develop an infrastructure for integrated healthcare delivery to the society.
- To develop an infrastructure for carrying out research in the field of Ayurveda/in integration to conventional medical science in critical cases.

Proposal

➤ **Type of proposed ICU – Level I**

The proposed ICU will be of level I type with basic facility of handling the critical cases.

➤ **Location of the ICU in hospital**

- Location of ICU is proposed at first floor at a location from where easy, safe and fast transport of a critical patient can be made.
- Spacious corridors and lifts must be there for easy and safe transfer of patient (beds etc.).
- Single guarded entry and exit point to ICU with provision of emergency exit is suggested.

➤ **Space Requirement for ICU**

- Proposed bed Strength – 5 to 6
- Space required per bed – 125 to 150 sq. ft.
- In addition to the patient care area, minimum 100% additional area must be there for observation area and support area.

➤ **Zones of ICU**

Setting of ICU area can be made in a way so that whole area can be divided into following four zones.

- ✓ **Zone 1 – Patient care area** (It will include the area around patient's bed)

▪ **Requirements**

- Electronic ICU beds with mattress
- Head end panels at each bed.
- Central oxygen supply
- Each bed should have a monitoring system arrangement placed at eye level.
- Temporary curtain partitions between the beds for patient's privacy.
- Bed placement should be 2 feet away from head end wall and a 6 inches high and 2 feet wide wooden plank must be placed between the wall and head end for easy working on the head side of the patient.
- Zone 1 can be positioned in a way so that it must not have direct entry from outside to avoid infections.

✓ **Zone 2 - Observation area**

It will include the central nursing and doctor's station with provision of sitting space for duty doctor, nursing staff. Adequate space for keeping medical records, drug trolleys, computers and printer with internet facility, hand washing area, storing of medical records and storage space for linen and other items must be made in the observation area of ICU.

Nursing station can be made in a way that all beds can be monitored from the station. The area should have sufficient infrastructure for sitting, keeping the records, for placing computer, printer etc.

Provision for separate procedure room for different procedures like paracentesis, thoracocentesis etc. is also desirable so that procedures may be performed easily and privacy of the patient can be maintained.

✓ **Zone 3 – Support area**

This area will have doctor's duty room, nurse room, toilets and store etc.

A small provision of library containing books and subscription to journals related to critical care medicine is also must. Internet facility with LAN connectivity and printing facility in the area is also must.

✓ **Zone 4 – Waiting area**

Provision for some space as waiting area for patient's attendants can be made outside the ICU with facility of drinking water, toilets and canteen.

➤ **Other requirements in**

ICUFloor

Floor can have vitrified non slippery tiles which can be easily cleaned. The colour of the floor tiles must be soothing.

Walls and Ceiling

Walls of the ICU can be fitted with tiles similar to floor tiles up to 4-5 feet for easy cleaning and good visual appearance. Paint on the rest of the walls must be soothing.

Ceilings must also have visually soothing paint and lights.

Lighting system

Lights in the room must be bright enough to conduct the proper examination and other procedures but must not produce strain in the eyes. Provision for high illumination, shadow free spot lights for various procedures can also be made. Provision for electricity backup must be in place. An uninterrupted power supply system is recommended for ICU.

Air quality

ICU must be fully air conditioned with preferable humidity and air change control. Tilt and turn windows are proposed for the ICU if, full air conditioning is not possible. It is proposed that technical expertise can be sought for air flow management system in the ICU.

➤ Legal requirements, Disaster preparedness and Safety issues

All legal permissions from central and local authorities must be considered beforehand.

It is proposed that while designing and planning of the ICU, all safety measures and disaster related (fire, earthquake, terrorist attacks, violence issues, power failure, oxygen failure etc.) measures must be considered as per the national (NABH) and local guidelines. Fire fighting measures must be adequately placed in and around ICU premises with emergency exit plan.

➤ Instrument Requirements

Proposed instruments list is given but can be modified further. Expert advice of an Intensivist or team expert in setting up of ICU in India is suggested.

S. No	Item	Quantity	Remark
1.	ICU bed with mattress	5-6	Remote operated Electronic type with facility of back rest tilting, knee rest tilting, trendelenburg and reverse trendelenburg tilting to right and left.
2.	Over bed tables	One per bed	Standard
3.	Bed side lockers	One per bed	Standard

4.	Multipara Monitors	One per bed	NIBP, SpO2, HR, RR, ECG Parameters must be displayed. Provision of two monitors with facility of ETCO2 monitoring can be made.
5.	ICU ventilators	Minimum 2	With all basic modes
6.	Non Invasive ventilators	Minimum 1	Standard
7.	High flow Nasal cannula	One	Standard
8.	Syringe pumps	One per bed	Standard with high precision
9.	Infusion pumps	One per bed	Standard
10.	AMBU Bag with face mask of different sizes	One per bed	Standard
11.	Stethoscope	One per bed	Good quality
12.	Digital thermometer	Quantity sufficient(QS)	Standard
13.	Torch	5	Standard
14.	Glucometer with strips	5 with sufficient strips	Standard
15.	Reflex Hammer	5	Standard
16.	ECG Machine	One per unit	Standard
17.	ABG Machine	One per unit	
18.	Biphasic Defibrillator	One per unit	Biphasic with standard guidelines & requirements
19.	Disposable pads for defibrillator	QS	
20.	Laryngoscope	One per unit	Adult and Paediatric with all sizes and different shaped blades and spare bulbs
21.	Oro-pharyngeal/Laryngeal mask airway	1 pair each	Standard with different sizes
22.	Endotracheal tubes (all sizes)	As per requirement	Standard with different sizes
23.	Tracheostomy tubes	As per requirement	Standard with different sizes
24.	Tongue depressors	5	Standard with different sizes
25.	Sphygmomanometer	5	Standard digital apparatus
26.	Portable X-Ray machine	1	Standard
27.	Portable suction machine	1/unit	Standard
28.	Ampoule cutter	1	Standard

29.	Needle disposer	1	Standard
30.	Waste bins (colour coded)		As per BMW guidelines
31.	IV drip stands	5	
32.	Emergency Crash Cart	1	As per NABH guidelines
33.	Procedure trolley	1	Stainless steel
34.	ICU chairs for staff and relatives	As per requirement	Good quality furniture as per the ICU needs
35.	Wheelchair	2	Standard
36.	Stretcher trolley	1	Standard
37.	X Ray View box	1	Standard
38.	Weighing scale	1	Standard
39.	Oxygen concentrator	1	Standard
40.	Nebulizers	2	Standard
41.	Drugs	Quantity sufficient	Drug list can be prepared with the help of Intensivist before ICU starts working

➤ Bedside Requirements

S. No.	Requirement	Quantity
1.	Oxygen outlet	2/Bed
2.	Vacuum outlet	1/Bed
3.	Compressed air outlet	1/Bed
4.	Electric outlet 15 amperes	2/Bed
5.	Electric outlet 5 amperes	10/Bed
6.	Infusion pumps	3
7.	Syringe pumps	5
8.	UPS (with connectivity to each bed)	2

➤ Staff requirement for ICU

S. No.	Post	Number	Qualification
1.	Intensivist	One	Post graduate degree in anaesthesiology, internal medicine, emergency medicine with some experience in intensive care OR Certified medical professionals in critical care. Intensivist will work as the head of the ICU.
2.	Resident doctor	-	Post graduates of department of Kayachikitsa can work as resident doctors. In addition to this, one intern with one post graduate can also be employed.

3.	Nursing officer	4+3	4 Qualified and trained nursing officer having 3 years of experience working in ICU Additional 3 nursing officers already working in the institute can also be posted in ICU for proper functioning of the ICU as well as for human resource development.
4.	Pharmacist	One	Qualification of B pharmacy and 2 years of experience working in a hospital.
5.	Nutritionist	-	Dietician is already employed in the institute whose services can be taken in the ICU also.
6.	Physiotherapist	-	Physiotherapist is already employed in the institute whose services can be taken in the ICU also.
7.	Respiratory therapist (optional)	One	Being Level 1 ICU, respiratory therapist need is optional.
			If required, one person with 3 years of experience as respiratory therapist and having working knowledge of handling the ventilator settings.
8.	Bio medical Engineer	One	Services of bio medical engineer for maintenance of all the medical equipments of ICU as well as other hospital equipments are recommended.
9.	Attendant	One/shift	Having experience of working
10.	Housekeeping staff	One per shift	Already working staff can be employed
11.	Security guards	One per shift	Already working staff can be employed

➤ Financial Implications

Tentative expenditure is prepared which may vary subject to administrative decision.

Expenditure on Infrastructure development

Name of Work	Estimated cost	Remark
Construction of ICU	5,00,000	One time
Extension of Central High flow oxygen line	3,00,000	One time
Grand Total	8,00,000	

Estimated Expenditure on Salary of Staff

Name of Post	Proposed Salary/month	Annual	Number of posts	Total Annual Expenditure
Intensivist	2.5 Lakh	30 Lakh	1	30,00,000
Resident doctor	(PG scholars will work as resident doctors)	-	-	-
Nursing officer	35000	4,20,000	4	16,80,000
Pharmacist	25000	3,00,000	1	3,00,000
Nutritionist	(already employed in institute)	-	-	-
Physiotherapist	(already employed in institute)	-	-	-
Bio medical Engineer	75,000	9,00,000	1	9,00,000
Attendant	20,000	2,40,000	3	7,20,000
Housekeeping staff	20000	2,40,000	3	7,20,000
Security guards	20000	2,40,000	3	7,20,000
Grand Total				80,40,000

Estimated One time expenditure on ICU Furniture & Equipment

S. No	Item	Quantity	Estimated cost/unit	Total	Remark
42.	ICU bed with mattress	5-6	1,50,000	9,00,000	One time
43.	Over bed tables	One per bed	7500	45,000	One time
44.	Bed side lockers	One per bed	7500	45,000	One time
45.	Multipara Monitors	One per bed	1,00,000	6,00,000	One time
46.	ICU ventilators	Minimum 2	-	-	One time
47.	Non Invasive ventilators	Minimum 1	4,00,000	4,00,000	One time
48.	High flow Nasal cannula	One			One time
49.	Syringe pumps	One per bed	25000	1,50,000	One time
50.	Infusion pumps	One per bed	50000	3,00,000	One time
51.	AMBU Bag with face mask of different sizes	One per bed	5000	30000	One time
52.	Stethoscope	One per bed	1500	9000	One time
53.	Reflex Hammer	5	500	2500	One time
54.	ECG Machine	One per unit	2,00,000	2,00,000	One time

55.	ABG Machine	One per unit	5,00,000	5,00,000	One time
56.	Biphasic Defibrillator	One per unit	3,00,000	3,00,000	One time
57.	Laryngoscope	One per unit	3000	3000	One time
58.	Oro-pharyngeal/Laryngeal mask airway	1 pair of all sizes each	10000	10000	One time
59.	Sphygmomanometer	5	10000	10000	One time
60.	Portable X-Ray machine	1	3,00,000	3,00,000	One time
61.	Portable suction machine	1/unit	20,000	20,000	One time
62.	Ampoule cutter	1	1000	1000	One time
63.	Needle disposer	1	1000	1000	One time
64.	Waste bins (colour coded)		5000	5000	One time
65.	IV drip stands	5	10,000	10,000	One time
66.	Emergency Crash Cart	1	20,000	20,000	One time
67.	Procedure trolley	1	30,000	30,000	One time
68.	ICU chairs for staff and relatives	As per requirement	1,00,000	1,00,000	One time
69.	Wheelchair	2	30,000	30,000	One time
70.	Stretcher trolley	1	50,000	50,000	One time
71.	X Ray View box	1	50,000	50,000	One time
72.	Weighing scale	2	2500	5000	One time
73.	Oxygen concentrator	1	50,000	50,000	One time
74.	Nebulizers	2	2500	5000	One time
75.	Digital thermometer	Quantity sufficient(QS)	250X20	5000	One time
76.	Torch	5	200	1000	One time
Grand Total				41,87,500	

Estimated Recurring Expenditure on Reusable Items

S. No	Item	Quantity	Estimated cost/unit	Annual	Remark
1.	Glucometer with strips	5 with sufficient strips	2500	12500	Recurring
2.	ECG Papers	QS	10,000/10 units	30,000	Recurring
3.	Disposable button electrodes	QS	1000/pack of 50	10000	Recurring

4.	Endotracheal tubes (all sizes)	As per requirement	5000	10000	Recurring
5.	Tracheostomy tubes	As per requirement	5000	10000	Recurring
6.	Tongue depressors	5	5	2500	Recurring
7.	Drugs (Initial lot)	Quantity sufficient	1,00,000/month	12,00,000	Recurring
8.	Bandage/cotton/Gel/etc	Quantity sufficient	10,000/month	1,20,000	Recurring
Grand Total				1,39,5000	

Total Estimated Expenditure

S. No.	Item Heads	Estimated Expenditure
1.	Expenditure on Infrastructure development	8,00,000
2.	Expenditure on Salary of Staff	80,40,000
3.	Expenditure on ICU Furniture & Equipment	41,87,500
4.	Estimated Recurring Expenditure on Reusable Items	1,39,5000
Grand Total		1,44,22,500

Department of Kayachikitsa is submitting this draft Proposal for Setting up an Intensive Care Unit (ICU) at National Institute of Ayurveda Hospital Jaipur. Under your visionary leadership this institute has witnessed huge growth and we hope that our proposal will be accepted so that clinical facilities delivered at our hospital can be strengthened.