भारत सरकार
Government of India
स्वास्थ्य एवं परिवार कल्याण मंत्रालय
Ministry of Health & Family Welfare
वर्धमान महावीर मेडिकल कालेज एवं सफदजरंग अस्पताल, नई दिल्ली – ११००२९
Vardhman Mahavir Medical College & Safdarjung Hospital,
New Delhi -110029
भेषज अनुभाग (मशीनरी एवं उपकरण)
Medical Store (Machinery & Equipment)

Date: 02.08.2021

Notification for procurement of proprietary equipments

This hospital propose to procure the following equipments on proprietary basis. If any bidder have any query/objection/clarification about the equipments listed below, the same may be sent to the Officer In-charge, Machinery & Equipment Section, Safdarjung Hospital, New Delhi-110029 or email at officericme@vmmc-sjh.nic.in on or before 31.08.2021. Any query/objection/clarification received after 31.08.2021 will not be entertained.

Sl No.	Name of the Equipment	Department	QTY	Approx. COST (In Lakhs)	Name of the Manufacturer
1	Virtual Visualization System Anatomage	Anatomy	1	249.54	M/s Anatomage, Inc, USA
2	Blood Bank Cool Table	Blood Bank	1	3.50	M/s Alliance Transfusion Pvt. Ltd., Gurgaon, India
3	Blood Storage and Real Time Management System (RFID Technology)	Blood Bank	1	80.00	M/s Biolog-id, France
4	Meek Micrograph set	Burns, Plastic & Maxilofacial Surgery	1	10.00	M/s Humeca. B.V., Netherlands
5	Pulmonary Thromboembolectomy Instruments	CTVS	3	8.20	M/s Wexler Surgical, Inc., Texas, USA
6	Advanced Visual Field Analyser	Ophthalmology	2	70.00	M/s Carl Zeiss Meditec AG, USA
7	Advanced Phacoemulsification system with anterior vitrectomy	Ophthalmology	2	70.00	M/s Alcon Laboratories Inc., USA

8	Advanced Surgical Microscope with optical zoom with integrated camera	Ophthalmology	4	200.00	M/s Carl Zeiss Meditec AG, Germany
9	Equivital Wireless Belt pack	Physiology	1	7.00	M/s AD Instruments Pty Ltd, Australia
10	Sphygmocorxcel system (non invasive central aortic pressure waveform analysis and pulse wave velocity)	Physiology	1	20.00	M/s Atcor Medical Pty Ltd., Australia
11	Nevrokard Software for Baroreflex sensitivity and Heart rate variability	Physiology	1	9.00	M/s Nevrokard Kiauta, d.o.o., Slovenia
12	Vac Ulta Therapy System	Surgery	4	32.00	M/s KCI USA, Inc.
13	Vac. RX4 Therapy System	Surgery	4	72.00	M/s KCI USA, Inc.
14	EMS Lithoclast Master	Urology	1	48.00	M/s Electro Medical System, Switzerland

Officer In-charge
Machinery & Equipment Section

01

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GENERAL BROAD BASED SPECIFICATIONS

ANATOMY VIRTUAL VISUALIZATION SYSTEM – ANATOMAGE (Quantity-01)

1.	High resolution virtual real T*issue* anatomy life size display system.
2.	System should have minimum Two Male and Two Female Gross Anatomy with real tissue data and 22 or more photorealistic regional sections.
3.	System should have 3D embryo scans to visualize the stages of human development in detail
4.	System display should have multi touch point capability
5.	System should have display equivalent to size of dissection table with a resolution of 3840*1080 or better.
6.	System should be provided with multiple UHD Led TV to make screen size of minimum 120 inch or more for lecture hall
7.	Students, teachers and doctors should able to review the CT/ MRI cases with gross anatomy on system side by side
8.	The system should have at least 40 or more animal scan preloaded data for comparative study with human body
9.	The system should have a possibility to see CT data in Ultra High-Quality Mode and Soft Tissue with hard tissue mode.
10.	The system should have comparative study cases with synchronized dissections of multiple cases.
11.	The system should come with FDA approved Radiological Imaging Processing System
12.	Capabilities to open CT/MRI data and provide high quality interactive 3D volume rendering data in Ultra High Quality Mode, Opaque Hard Tissues, Transparent Soft Tissues, GreyScale, X-Ray , Transparent Hard Tissues
13	System should be capable of simultaneous display of Male and Female real tissue Gross anatomy for cross referencing purposes.
14.	Ready made and customized quizzes should be available in system with possibility to generate multiple student score automatically during classroom test.
15	System should have pre installed real-life 3D prosections to have full cadaver lab experience
16.	System should have feature to visualize histology related with the structure
17.	System should have feature to simulate endoscopic procedures in gross anatomy major body systems
18.	Operating Temperature of the system should be within range 0 to 40 degree Celsius or better
19.	Operating Humidity range should be 10 to 60% or better
20.	System should have 5 mm or better tempered glass for display protection
21.	System should have at least 02 Video output for external projection
22.	System should be provided with multiple student and faculty license to study human anatomy atlas which can be installed on pc or mobile.

02

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Specification for Blood Bank Cool table

Used to keep the blood components at the prescribed storage temperature

01.Stainless Steel Table Top with Low Carbon Content of 0.08
02.Stainless Steel sheet thickness 18 gauge.
03.Flat and open tabletop for easy access and placement blood bags
04.A lid on top of the Cool area to preserve optimal temperature, with an opening to access the units of blood.
05.Appropriate Refrigerant HFC r134a.
06.Hermetically sealed double Compressor 220 – 240V, 50Hz.
07.Cooling Capacity – 355kcal/h.
08. Appropriate capacity Compressor, voltage stabilizer, UPS
09. Size should be Approx – 24"(w) * 20" (d) * 45"(h).
10.The working area be lightly tilted to evacuate the condensation
11.Temperature on Table Top : 4Deg C – 6 Deg C
12. 02 Non Lockable Wheels & 02 Lockable Wheels.
13. Digital Electronic Thermostat.
14.Should have a digital display of temperature.
15.User satisfactory certifications from Govt. Hospitals to be attached.
16.The Manufacturer should have experience of having sold Cooling table for more than 2 years. User Order Copies should be attached.
17.Power Consumption Less than 400W.
18.CE/FDA/BIS certifications are must.
19.Demonstration of equipment is mandatory if demanded
20.5 years comprehensive warranty and 5 yrs CMC after warranty period.

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Specification for blood supply management of RBC based on RFID Technology Solution.

Item-01

Smart storage devices for Inventory Management in real time:

1. The System should provide to the Data Management System, individual storage location for human Red Blood Cells bags in easily accessible storage modules. Storage capacity 1200 - 1250 units.
2. It should be compatible to RFID based inventory software for inventory updation and giving real time stock
3. It should be compatible to RFID smart tag used for RBC inventory management and locate RBC in real time
4. The system should be compatible with a wide range of commercially available blood bank storage cabinets blood bank refrigerators (4°C±2°C)
5. Installation of RFID Storage devices should be reversible upon need with no impact on cabinet integrity
6. Storage capacity of RFID storage devices should remain in a similar range than original cabinet's capacity
7. Installation and maintenance of RFID Storage devices should be included in tenderer's proposal
8. RFID device for Red Blood Cells bags storage should have Medical Device certification from a least one international recognized agency (i.e. C.E. Mark, FDA, CFDA, ...)
9. The smart storage device should provide information in real time - local and remote monitoring
10. The smart storage device should display indication of free locations in refrigerators for placing new inventory
11. It should have facility to update the inventory automatically and provide information in real time
12. It should be used/evaluted in premier medical institute blood bank in India for specifically blood inventory management and provide satisfactory performance certificate from the institute.

Item-02:

Encoder & Reader

1. It should help to encode / write donor information on passive RFID tags for storage of red blood cell and inventory management.
2. The system should have a facility to encode the Phenotyped details in the labels
3. The system should have the capability of encoding the RFID labels tag with required information (i.e. Donation no., expiration date & blood group). Reading, writing and overwriting RFID labels should be possible at any time during the blood product life cycle.
4. An RFID label Encoding device should be part of the solution to write and read required information in the RFID chip.
5. Bench-top RFID readers should be proposed for RFID-labelled blood bags distribution and reception
6. It should be used/evaluted in premier medical institute blood bank in India for specifically blood inventory management
7. Should be compatible and can be interfaced with the data and information management software

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Item-03:

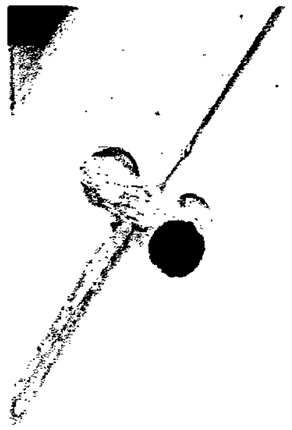
Data & Information Management software for Real time inventory Management

1. The system should provide management & monitoring of inventory for each storage cabinet based on RFID
2. The system should provide real time update on local RBC inventory
3. The system should provide the complete information of each Red Blood Cells unit and its precise location within a given Storage Device.
4. The system should have automated monitoring & recording of Blood products movements
5. The system should provide a standardized interface protocol to be used by a third-party software Editor for all necessary information download and upload
6. It should provide threshold alerting for products to avoid wastage
7. It should provide remote and local management of blood products
8. It should provide information about stock movement and provide alert if products are kept for long duration outside the refrigerators
9. The system should help in providing information in real time about shelf life management of blood products
10. The system should provide indication of empty spaces in refrigerators for placing new inventory
11. The system should be able to connect rfid enabled multiple refrigerators and able to provide stock update in real time about all refrigerators & specific rfid enabled refrigerators
12. The system should have advance search option to help in fetching specific Rh phenotypes blood products
13. The system should be capable to communicate with 03rd party blood banking software

Item-04:

Traceability of Blood Products – Smart Tags for Blood products inventory management

1. The labels to be dedicated for the traceability of blood products (RBC, Platelets, Plasma - 40°C). It should use a antenna, an electronic chip with 2K-bit memory
2. The adhesive used in labels should have certification like ISEGA/FDA to ensure no impact on the blood products
3. RFID technology should be compliant with ISO norms 15693 / 18000-3
4. The tag should be capable of encoding extended Rh Phenotyping
5. The tags should be used/evaluted in premier medical institute blood bank in India for specifically blood inventory management
6. RFID Labels should meet the ISO3826 norm for labelling blood products qualified for use for the reverse coating of labels employed for labelling blood bags
7. The storage units of the proposed System should use the RFID technology to locate Human Red Blood Cells products and compatible to smart storage devices for Inventory
8. RFID label should be passive 13.56 MHz as per international guidelines for use on blood bags
9. The RFID tags should be supporting irradiation of blood components (30-50 Gy) and should have label and data retention integrity
10. Should have data retention and label integrity (Fast Freezing at -80 and read/write at -40 °C)
11. Should work on Centrifugation 4500 PM with label integrity and data retention
12. The System should propose a reliable and complete set of equipment allowing to perform the various steps required to ensure full benefit use of the technology from Labels encoding, Labels reading, Blood bags storage and distribution.



Technical specifications of Meek Micrograft Set.

1. Meek hand drive Complete with accessories & sterilization case Set 1No.
2. Consummables:
    1. Meek Micrograft gauze, expansion 1:3, with cork plate 50 pcs.
    2. Meek Micrograft gauze, expansion 1:4, with cork plate 50 pcs.
    3. Meek Micrograft gauze, expansion 1:6, with cork plate 50 pcs.
    4. Meek micrograrft gauze, expansion 1:9, with cork plate 50 pcs.
    5. Meek adhesive, spray bottle 200 ml.

Pulmonary Thromboembolectomy Instruments

Specification of Instruments

1.	Forcep for PTE	1. Double Action DeBakey Forceps-Straight 1mm Jaws, Round handle with Counterbalance, Titanium, 12" (30.5cm).	Quantity – 01
2.	Forcep for PTE	Double Action DeBakey Forceps-Straight 1mm Jaws, Round handle with Counterbalance, Titanium, 16" (40.5cm).	Quantity – 01
3.	Suciton for PTE	Madani PTE Suction-Straight tube, Round handle, 12" (30.5cm).	Quantity – 01

Warranty 05 Years.

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SPECIFICATION FOR ADVANCED VISUAL FIELD ANALYSER

1. High quality Goldman standard automated full field Perimetry of International standard with bowl size radius = 30cm.
2. Computer & Monitor should be integrated in the perimeter (No external computer).
3. Stimulus size I, II, III, IV & V.
4. Background illumination 31.5Asb.
5. Maximum temporal range 80Deg.Suitable for central 30, neurological tests as well as full field testing.
6. Central field test patterns 30-2, 24-2, 10-2, Macula.
7. Peripheral field test pattern 60-4, Nasal Step, custom test.
8. Threshold test strategies full threshold, SITA standard, SITA Fast , Full threshold, Fast Pack, SITA - SWAP.
9. Screening field test P-60, FF-80, FF-120, FF-240,Nasal Step for periphery .
10. Screening test strategies Two zone, Three Zone and Quantify Defects.
11. Glaucoma hemi field test
12. Heijl –Krakau blind spot monitor
13. Video eye monitoring, Gaze Tracking monitoring system, .
14. Vertex Monitoring and Head Tracking.
15. Touch screen on CRT Monitor, Keyboard & provision of external monitor & Keyboard.
16. Internal hard disk drive.
17. Stimulation duration 200ms, wavelength Broad band visible light
18. Stimulus/Background colour White on White.
19. SWAP (Blue on Yellow) perimetry.
20. Auto Pupil Measurement.
21. Kinetic testing & Custom Kinatic testing.
22. Motorised chinrest, Motorised table, Laser Jet Printer
23. Glaucoma Progression Analysis (GPA) Software for Monitoring disease progression. With visit wise graph & Visual Field Index (VFI).
24. Eye monitor – to review eye position at any stimulus point.
25. Automated liquid Trial Lens (Auto TLC) – single trial lens to reduce setup time
26. Forum Software for Archiving & Offline analysis of patient data & GPA analysis etc.
27. HFA DICOM Gateway.
28. Five Years warranty and 5 Years CMC should be provided. CMC rates should be quoted in bid.
29. List of accessories and consumables with their rates should be quoted separately, which should be frozen for a period of 5 years from date of installation.
30. Compulsory demonstration required.

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Advanced Phacoemulsification System

The Phacoemulsification system should be of the latest model with advanced features and facilities as specified below:

1. Fully programmable, multi processor control system
2. Should have the ability to drive high performance four-crystal Handpiece, piezoelectric, slim, and lightweight and autoclavable.
3. Should have the facility to drive the U/S Longitudinal and U/S Torsional Ultrasound Handpiece
    a. Longitudinal Resonant Frequency: 43.5KHz ±3.0 KHz
    b. Torsional Resonant Frequency: 32.5 kHz ± 2.0KHz,
    c. The torsional handpiece should be able to drive latest generation phaco tips like Kelman,
    d. Flared , min flared and aspiration bypass (ABS) tips in both 1.1MM OR 0.9MM configurations.
    e. Facility of ultrasound power control in various sub modes like continuous, pulsed, burst
4. The System "Fluidics Management System" should provide dependable chamber Stability
5. System should have the facility to maintain intraocular Pressure(IOP) either by gravity fluidics or Active fluidics.
6. Highly noncompliant tubing
7. Slow almost zero venting of air in fluidics system
8. Optical Pressure Sensor (OPS)
9. Measures deflection of Irrigation & Aspiration Pressure Sensor diaphragms
10. Reads 2D barcode with calibration info
11. Dual Segment Pump with Advanced Fragmented Pump design
12. High Capacity
13. Low Pulsations (waveform canceling)
14. Should have a modality of Pulse rate range from 1 to 250 pulses/sec. with selectable variable on and off time range from 0 to 100%
15. Should have Burst setting range from On time 2 ms to 500 ms and Off Time range from 2500 to 0ms
16. Should have the facility to use vacuum level of 0-650 mmhg or more and aspiration flow rate of 0-60 cc/ min or more.
17. Should have facility of Lower Vacuum rise time
18. Voice confirmation during mode changes 0-60 dB
19. Should have an ability to drive GUILLOTINE cutter for anterior Vitrectomy with cut rates range from 1-2000cuts per minutes.

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20. Should have different Mode of Anterior Vitrectomy, Anterior Vit, Epi Removal, I/A Cut,
    Peripheral Irid, Visco Asp
21. Should have a wireless remote control.
22. Should have map able and programmable footswitch
23. Should have an adjustments for footswitch to accommodate for varying lengths of the foot
24. 12.1" or more Flat screen, color LCD display with touch screen and tiltable.
25. Bipolar coagulation capability with Power 10Wmax, 75Ω Load, 76V pps@1.5MHz ±5% 75Ω Load
26. System should have the facility to use Motorized/Automated IOL injection
27. System should have the facility to use HD Vide Overlay
28. Mandatory 5 years warranty and CMC for five years. CMC rates should be quoted separately in bid.
29. List of accessories and their consumables with their rates should be quoted separately which should be frozen for a period of ten years from their installation.
30. Compulsory Demonstration required.

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SURGICAL OPERATING MICROSCOPE FOR ANTERIOR SEGMENT SURGERY (EYE)

1. Motorised zoom magnification changer with manual override and apochromatic optics total magnification : 4.3x...25.5x or more.

2. Zoom factors from 0.4x to 2.4x or more, zoom ratio of 1: 6 or more

3. Front-to-back tilt facility with handgrip

4. Integrated swing-in halogen mode filter, eye protection filter and colour rendering filter by rotating knob

5. Motorised fine focusing, activated by a foot control panel, fine focusing range: 48 mm or more

6. Illumination angles : 2^0 (for rich and homogeneous red reflex) and 6^0 (for depth enhancement, switchable by rotating knob.

7. Visual field diameter: 53 mm...9 mm or more

8. 0 -180-degree tiltable binocular tube with focal length of 170 mm or more Graduated knob(s) for adjustment of interpupillary distance from 55 mm to 75 mm or more

9. Pair of high-eyepoint widefield push-in (magnetic) eyepieces 12.5x Diopter setting from –8D to +5D or more, also suitable for spectacles wearers

10. High-quality objective lens with apochromatic optics and focal length of 200 mm Mount diameter 65 mm or more.

11. Coaxial LED light source with colour temperature of 4,500 K (daylight effect).

12. Motorised xy coupling, activated by a foot control panel, range : 60 mm x 60 mm or more

13. Waterproof foot control panel with 12 functions or more, control switches for on/off, increase and decrease of intensity, fine focusing, zoom system and xy coupling

14. Rollable floor stand on base with lockable castors, column with height of 1.70 m or more, carrier and swivel arms with a reach of 1.0 m or more.

15. Rotation angle (around column/carrier arm) : 360 degrees and +/-150 degrees or more Swivel height of suspension arm : +/-0.30 m or more.

16. Asepsis caps- 03 sets for all control knobs.

17. Independent Integrated assistant microscope with 3 Step magnification & 45 Deg

18. Integrated Full HD video documentation system with recording facility on HDD/ DVD.

19. Suitable online UPS with 30 Min Backup.

20. Mandatory 5 years warranty and CMC for five years. CMC rates should be quated separately in bid.

21. List of accessories and their consumables with their rates should be quoted separately which should be frozen for a period of ten years from their installation.

22. Compulsory Demonstration required.

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GENERAL SPECIFICATIONS FOR WIRELESS RECORDING SYSTEM FOR CARDIO-RESPIRATORY PARAMETERS

1. The apparatus should be able to accurately measure the following parameters:
   (i) ECG, heart rate, all ECG intervals.
   (ii) Respiratory rate
   (iii) Oxygen saturation
   (iv) Accelerometer X,Y,Z, activity
   (v) Skin temperature
   (vi) Galvanic skin response
2. Should be able to record parameters from a distance of at least 100m.
3. The software must be able to accuratelyrecord, analyze and print the data. It should also allow calibration of transducers, display of actual values, controllable gain, filter settings, baseline setting for event marking and annotation.
4. The software should be capable of measuring time interval between user selected points, display of data value at user selected point, editing of the records and re-annotation. It should be able to allow data analysis in offline and online mode.
5. The Battery life should be >16hrs and memory >8GB
6. Real time data streaming with Excel, MatLab and other common formats should be possible.
7. Should be mandatorily certified for safe use for human. CE and FDA approved.

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Equivital Wireless monitoring belt for Cardio respiratory and Rehabilitation Studies as an add on accessory to existing LabChart Software

Technical Specifications

The Monitor should measure the following parameters with its integrated and ancillary sensors:

1. ECG; Heart rate; R-R interval
2. Respiratory rate
3. Oxygen saturation
4. Accelerometer X,Y,Z, activity
5. Skin temperature
6. Galvanic skin response

FEATURES:

- User friendly software for recording, analysing and printing the data, the software should allow calibration of transducers, display of actual values, controllable gain, filter settings, baseline setting for event marking and annotation.
- Should be capable of recording parameters, up to distance of atleast 100m .
- It should be capable of measuring time interval between user selected points, display of data value at user selected point, editing of the records and re-annotation.
- It should be capable of displaying data in scope mode and chart mode. It should allow calculation of rate, slope from raw channels in offline as well as online mode.
- System function LED indication
- Battery life of at least 20 hrs.
- Memory of at least 30 days continuous /8GB
- Automatic Analysis Feature: Online and Offline ECG (Interval extractions), HRV (Time & Frequency domain), Spectrum, Peak analysis.
- Real time data streaming with Excel, MatLab and other common formats.
- Device should be preferably water proof.
- Mandatorily certified safe for human use{CE and FDA approved}
- Mandatory demonstration and training of all personnel concerned.
- It should be compatible with the existing LabChart Software.

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Annexure 2

14. General Broad-Based Specifications

Technical specifications of non-invasive central blood pressure measurement, arterial stiffness and pulse wave analysis system

1. Signal processing module.
2. Automated cuff-based system.
3. RS- 232 serial interface/ USB serial port connectivity.
4. Should be able to measure pressure of 0-300mmHg.
5. Should have facility for output of signals with the signal range of -5 to +5V.
6. Should be able to auto scale ECG and Pressure waveforms with real-time display of data.
7. Derive aortic BP profiles along with Systolic and diastolic BP and augmentation index.
8. Calculate pulse wave velocity from ECG and pressure waveforms.
9. Should perform waveform analysis like slope and amplitude of the waveforms.
10. Should be able to work in ambient temperature of 20-30°C and relative humidity of 30-70%.
11. Should have patient database management.
12. Should have export function for allowing the data to be readily analysed with Excel, SPSS.
13. Should have FDA approval & Electromedical equipment safety standard.
14. Compatible computer.

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Annexure-2

Heart Rate, Blood Pressure Variability Analysis Software for Human

The software should have the following features.....

1) The software should be flexible, versatile & professional for the study of Heart Rate Variability (HRV) from human.
2) It should have the provision to study Blood Pressure Variability (BPV) and Baroreflex Sensitivity (BRS).
3) USB dongle compatible with the software should come.
4) It should have the capability to analyze HRV, BPV, & BRS from data series in several different compatible formats.
5) HRV analysis software should be compatible with ECG & RRI files in several different & existing ACQ formats.
6) Either whole ECG or RRI recordings or their parts can be analyzed both in time and frequency domains.
7) In time domain analysis software should calculate Statistics, Segmented Statistics, Histogram, and poincare analysis.
8) In frequency domain analysis should be based on non-linear analysis, parametric method, non-parametric method.
9) BPV analysis software should be compatible with ECG/BP recordings of different compatible formats.
10) It should be capable to analyze different BP parameters like Systolic, Diastolic, Mean Blood Pressure & also Pulse Pressure.
11) Either whole ECG or BP recordings or their parts can be analyzed both in time and frequency domains.
12) In time domain analysis software should calculate Statistics, Segmented Statistics, Histogram, and Poincare analysis.
13) In frequency domain analysis should be based on parametric and non-parametric method.
14) BRS analysis software should be compatible with ECH/BP recordings of different compatible formats.
15) Modular extension cable for bio potential amplifier to touch proof inputs, respiration measuring amplifier with respiration transducer compatible with existing mp system should supply with it.
16) It should calculate BRS in two methods such as Sequence Method & Spectral Method.
17) It should calculate Baroreflex Sensitivity Index with RRI, HR as well for all three pressures (Systolic, Diastolic, Mean) as the basis of calculation.
18) All the analysis results can be exported, directly converted into graphic formats or presentation slides, or transferred to clipboard.
19) The software should be able to analyze acq data file from existing ECG & beat to beat blood pressure measuring system.

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Technical Specifications of V.A.C Negative Pressure Wound Therapy System

1) It should provide dynamic Pressure Control, which is the evolution of intermittent therapy that maintains minimum negative pressure levels between cycles, helping to prevent leaks and fluid accumulation that can occur when there is no negative pressure at the wound site.

2) It should have compatible Transparent Disposable Canister for collecting exudate/infectious fluid, which should contain some chemical filter to trap moisture, odour , to monitor the amount of infectious fluid being removed, to solidify infectious fluid and should have minimum capacity of 500ml & 1000 ml

3) It should have compatible VeraLink Cassette with instillation tubing and spikeable cap adaptor for holding and controlled volumetric delivery ofrecommended topical antimicrobials/infusion at the wound site. It should help wound cleansing, decrease bacterial burden and thereby prepare for primary or secondary closure.

4) It should have sophisticated alarms/alerts of tubing blockage, pressure leakage, canister full, low battery, therapy inactive or any malfunctioning to maximize patient safety.

5) It should be electrically operated under 100 V to 240 V (50 / 60 Hz) Power supplyand have atleast 6 hours internal battery backup for enhanced patient freedom.

6) It should have Night Mode Option for both less patient disturbance and more Power Back up.

7) It should have USB and Memory Card Ports for downloading Patient History data and Wound Size analysis.

8) Digital wound image analysis feature allows healthcare professionals to measure and calculate wound area and volume, which helps wound progress assessment.

9) It should have following registrations and certifications-

- Registration certificate under the Drugs and Cosmetic Act – India
- Import License Copy – India
- US-FDA Certificate

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Technical Specifications of Multi Use Wound Healing Device

- It should be capable of providing Negative Pressure Wound Therapy to multiple wounds simultaneously with individual channel controls and feedback
- It should have 4 separate channels with separate individual settings -individual pressure, intensity and mode can be assigned at the same time
- It should hold 4 separate individual Canister at a time and should have separate individual canister release buttons
- It should have start, stop and pause buttons for individual channels
- It should have continuous and intermittent mode
- It should provide controlled, localized sub-atmospheric pressure in continuous or intermittent mode to help draw wounds closed allowing tissue decompression and enhanced blood flow
- It should be compatible with soft open cell reticulated polyurethane foams with pore size 400-600microns.
- The system should be able, to be used on heavily exudating wounds of various sizes and shapes to deal with like burns, trauma wounds, chronic wounds, diabetic foot, open abdomen, sternal infections etc.
- Should have capacity to engage 4 Canister at a time disposable canister with bacteria filter & waste solidifier and should have minimum of 500ml capacityand canister is available and can be used with 1000 ml
- The system should have digital & touch display screen with screen lock facility for unauthorized handling and should be able to operate on Fingers and Stylus.
- Should have sophisticated alarms for safety and troubleshoot, should be portable & light weight not more than 7.3 kg.
- It should have microprocessor-controlled pressure (-50-200mmHg) settings with steps of 25mmHg to efficiently treat entire range of wound etiologies & sizes
- It should be electrically operated and have at least 6-8 hours internal battery backup for enhanced patient freedom
- It should have double layer filter system capable for reducing bacteria, infection & wound odor
- It should have microprocessor-controlled system for enhanced accuracy, maintain target negative pressure even during patient movement
- It should be able to monitor, and It should have the capability to alert the user of tubing blockage, pressure leakage, canister full, therapy inactive or any malfunctioning to maximize patient safety
- System should have fixed tubing to obtain controlled & infection free dressing.
- The system should operate under 100V to 240V (50/60Hz) Power supply
- The System should have night mode facility - to minimize the disturbance to the patient because when the night mode is active then ON-OFF Switch light will be dim and screen will be black.
- USB and Memory Card Ports for downloading Patient data and Wound Size analysis.
- The Systems should have an USFDA and CE Certifications

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General Specifications for EMS Lithoclast Master **Qty – 1 no.**

- Should have Ballistic and Ultrasound energies to be used simultaneously
- A single foot pedal to operate both or one energy
- Separate Hand pieces for Ballistic and ultrasound devices
- Separate probes for Ballistic and Ultrasound devices
- Facility to integrate both probes when using both the energies simultaneously to fragment large and Hard stones
- Should be able to use the energies independently also
- Facility to connect the unit to hospital compressed air supply
- Should be able to withstand pressures from 3.5 to 5 Bar
- Facility to connect to the hospital vacuum supply for suction of stone fragments
- Facility to collect the stone fragments
- Probes for various applications and scopes
- Ballistic probes: 0.8, 1, 1.6, 2 mm probes – 5 Nos Each
- Flexible ballistic probes for use in ureter and renal pelvis through flexible scopes
- Dual function ultrasound probes: 3.5 and 4mm probes for fragmentation and suction. Probes should have holes in the distal tip to prevent mucosal suction into the probe – 5 Nos
- Should supply the guidance adapters for the Ureteroscopes
- Hand pieces should be compatible for gas, glutaraldehyde sterilization or for autoclaving.
- Comprehensive warranty for 5 years and followed with CMC for next 5 years. CMC Rates should be quoted in the financial bid.
- Availability of spares to be ensured for minimum 10 years period.
- List of important spare parts, consumable and accessories with their part number and costing. Price of consumables, accessories to be fixed for two years from date of installation of machine.