



अखिल भारतीय आयुर्विज्ञान संस्थान, बीबीनगर, हैदराबाद
ALL INDIA INSTITUTE OF MEDICAL SCIENCES, BIBINAGAR, HYDERABAD
"An INI under the aegis of Ministry of Health & Family Welfare, Govt. of India"
हैदराबादमेट्रोपोलिटनक्षेत्र(एचएमआर), तेलंगाना - 508126, भारत
Hyderabad Metropolitan Region (HMR), Telangana-508126, India

संख्या/No.AIIMS/BBN/GEM/CPPP/2021/ 1098

/दिनांक / Dtd. : 11th September, 2021

विषय/Sub: Procurement of "Synthetic Cadaver Lab (Make : Syndaver Labs, USA)" for the Dept. of Anatomy at AIIMS, Bibinagar on Proprietary Basis - Inviting Comments thereon.

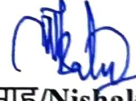
The Department of Anatomy of AIIMS, Bibinagar, Hyderabad has requested for procurement of Synthetic Cadaver Lab (Make : Syndaver Labs, USA) through M/s. BR Biomedical (P) Ltd., New Delhi, authorized distributor of M/s. Syndaver Labs, USA.

The Notice is being uploaded for general information of prospective Manufacturer/Authorized Distributor/Dealers to submit their objection/proposal/comments, if any, on proprietorship of the item.

In case the product of any Manufacturer/Authorized Distributor/Dealer conforms to the enclosed specifications, they may submit their proposal for the supply of the same alongwith the brochures, point by point compliance of the enclosed specifications alongwith all documentary evidence. One quotation of the product may also be submitted.

The objections/comments/proposal should be sent in sealed cover to the Office of Administrative Officer, AIIMS, Bibinagar, Hyderabad, Telangana - 508126 or through E-mail to admooffice.aiimsbibinagar@gmail.com or adminofficer@aiimsbibinagar.edu.in, so as to reach **on or before** date : **25.09.2021** failing which it will be presumed that no other firm is interested to offer comments/protest/object and case will be decided on its merits.

The Ref. No. AIIMS/BBN/GEM/CPPP/2021 dated : 11.09.2021 and submission of offer comments/protest/object due **on or before dtd. 25.09.2021** should be superscripted on sealed envelope.


(निशाकरसाहू/Nishakar Sahoo)
प्रशासनिक अधिकारी/Administrative Officer

संलग्न/Enclosures:

1. Proprietary Article Certificate from Indenting Officer of Department of Anatomy, AIIMS, Bibinagar, Hyderabad (**Annexure-I**).
2. PAC of M/s. Syndaver Labs, USA for the Synthetic Cadaver Lab (Make : Syndaver Labs, USA) (**Annexure-II**).
3. Certificate of Authorization, Price quotation with CMC of Synthetic Cadaver Lab (Make : Syndaver Labs, USA) (**Annexure-III**).
4. Technical Boucher of the items (**Annexure-IV**).

प्रतिलिपि/Copy to:

- | | |
|--|--|
| 1. PS to Executive Director | - for kind information of Executive Director please. |
| 2. Indenting Officer, Dept. of Anatomy | - for kind information please |
| 3. PA to DD (A) | - for kind information of DD (A) please. |
| 4. Accounts Officer | - for kind information please. |
| 5. Consultant (IT) | - for uploading in Institute's website. |

P-3 FORMTo be attached with P2 Form for proprietary (items)A.I.I.M.S., BIBINAGARPROPRIETARY ARTICLE CERTIFICATE

It is certified that the item 'SYNTHETIC CADAVER LAB', Make: Syndaver Labs, USA, required in the P2 form, is a proprietary and unique product manufactured by Syndaver Labs, USA, and should be purchased from M/s BR Biomedical (P) Ltd., D-71, Malviya Nagar, New Delhi - 110017. To the best of my knowledge BR Biomedical (P) Ltd., is the sole agent of the sole manufacturer Syndaver Labs, USA

Similar items manufactured by other firms(s) shall not be suitable for our purpose for the following reasons:

This product has the following unique features:

1. Synthetic head-to-toe Full Body Human Cadaver Model Syndaver Anatomy Model is the only synthetic Cadaver available in market with all bones, joints, muscles, organs, tendons nervous system and vascular components identical to the real Human Live Tissue, mimicking the physical properties of live tissue made up of proprietary SynTissue, generated using advanced Imaging Technique and technology.

2. This Synthetic Cadaver is biohazard and formaldehyde-free and does not pose any health risks to students/faculty and allows Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

3. As per PAC certificate provided by manufacturer M/S Syndaver U.S.A full body educational grade Synthetic Human Cadaver SynDaver Anatomy and all SynTissue™ brand products are proprietary technology items, protected by US Patent numbers: 9881522, 9679501, 9472122, 8801438, 8512044, 8425234, 8137110, 7993140, 7699615, 7677897, 7507092, 7427199, and 7272766.

Above features are important and beneficial for comprehensive Anatomy Teaching and learning purposes and are not available in any other product

Sign of indenter: *Dr. Rohini Motwani*

Designation : *Associate Prof*

Department : *Anatomy*

Recommendation: *Synthetic cadaver is useful for training students - MBBS & PG & is highly recommended.*

(Dr. MRUDULA)

Signature of Head of Department/ section

N.B. The indenter before recording the above certificate should satisfy himself /herself, that the article is genuinely of proprietary nature manufactured under patent laws



To Whom it may concern

Date: 20th July, 2020

Proprietary Certificate and Letter of Confirmation

SynDaver Labs designs and builds the world's most sophisticated synthetic human tissues and body parts. Our SynDaver Synthetic Human Cadaver consists of and employs hundreds of replaceable muscles, bones, organs, veins and arteries – all made from materials that mimic the mechanical, thermal, and physicochemical properties of live tissue. This validated technology is used to replace live animals, cadavers and even human patients in medical device studies, clinical training and surgical simulation.

inc This is to certify that these models are used for demonstration and is generated using advanced Imaging techniques and technology is a proprietary Product of Syndaver Labs, 8506 Benjamin Road, Tampa, Florida USA

We hereby verify that the full body educational grade Synthetic Human Cadaver SynDaver Anatomy Organs and all SynTissueTM brand products are proprietary technology items, protected by US Patent numbers: 9881522, 9679501, 9472122, 8801438, 8512044, 8425234, 8137110, 7993140, 7699615, 7677897, 7507092, 7427199, and 7272766.

The said Model with published details and specifications is not manufactured by any other manufacturer in the world

We are pleased to confirm that M/S BR Biomedical Pvt Ltd having office at D-71, Malviya Nagar, New Delhi-110017 India is our official Distributor for Products Manufactured by us in India.

This authorization is valid till 31st Dec, 2022 if not renewed.

R. Clark



R. Clark VP of International Business
For Syndaver Labs
Authorised Signatory

Date 20th August 2021**AUTHORISATION LETTER**

To

The Director
All India Institute of Medical Sciences
Bibinagar
Yadadri Bhuvanagiri,
Telangana

Dear Sir,

We Syndaver Labs , USA an established and reputed manufacturer of Synthetic Cadavers having factories 8506 Benjamin Road Tampa, Florida 33634 do hereby Authorize M/s **BR Biomedical (P) Ltd**, D-71, Malviya Nagar, New Delhi – 110 017 India to represent us, to bid, submit quotation , negotiate and conclude the contract on our behalf with you for SYNTHETIC CADAVER LAB.

No company/firm or individual other than M/s. **BR Biomedical (P) Ltd**, is authorized to represent us in regard to this business against this case and are authorised to provide after sales service.

Yours faithfully

For SYNDAVER LABS


NAME: _____
DESIGNATION: Director, Sales and Marketing



Synthetic Cadaver Lab for Anatomy Teaching

Synthetic cadaver Anatomy teaching lab Should comprise of the following

A) Education grade Synthetic Human Cadaver

1. Should be a Full body synthetic Human Cadaver for Comprehensive anatomy teaching of medical students
2. Should be possible to be used as an alternative to human cadavers in basic anatomy classes.
3. The Cadver should include all major skeletal, muscular and cartilaginous structures present in typical human anatomy. Should be a full sized, head-to-toe anatomical model.
4. Tissues of cadaver should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human body.
5. Should be made of real life like tissue material
6. Cadaver should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty. Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.
7. Cadaver should be complete with all bones, joints, muscles, organs and tendons in normal human anatomy. Major nervous system and vascular components should also be present.
8. Should have following feature and components
 - i. Structural Features: Skeletal, muscular, fascial and cartilaginous structures of the skull, jaw, cervical spine, rib cage, chest, abdomen, upper and lower back, shoulders, upper arms, forearms, wrists, digits, thoracic spine, lumbar spine, pelvis, thighs, lower legs, feet and toes.
 - ii. Anatomical Feature: Every bone, muscle, tendon, fully articulating joints, functioning respiratory system, complete digestive and urinary tracts, visceral organs, reproductive organs, circulatory system and nervous system including the following specifics:
 - a) **Nervous Components:** Lateral Cord, Musculocutaneous, Medial Cord, Medial Brachial Cutaneous, Medial Antebrachial Cutaneous, Ulnar, Radial, Superficial Branch, Sciatic, Common, Deep, and Superficial Peroneal, Tibial, Genitofemoral, Iliohypogastric, Ilioinguinal, Lateral Femoral Cutaneous, Obturator, Femoral, Anterior Cutaneous Branches, Saphenous
 - b) **Arterial Vasculature:** Aortic arch, Descending thoracic aorta, Renal arteries, Abdominal Aorta, common carotid arteries, Subclavian arteries, Axillary arteries, Brachial arteries, Coronary arteries, Iliac arteries, Radial arteries, Ulnar arteries, Common femoral arteries, Popliteal arteries, Anterior tibial Arteries, Fibular (peroneal) arteries, Posterior tibial arteries
 - c) **Venous Vasculature:** Jugular veins, Subclavian veins, Superior vena cava, Inferior vena cava, Renal veins, Common iliac veins, Internal iliac veins, External iliac veins, Cephalic veins, Basilic veins, Cephalic veins, Great saphenous veins, Popliteal veins, Femoral veins, Anterior tibial veins, Fibular (peroneal) veins, Posterior tibial veins
9. Construction Materials: Thermoplastic bones with integral fascia sheath. Muscular tissues of organosilicate composite and specialized SynTissuebrand synthetic human skeletal muscle, tendon, fibrous fascia, and bone.
10. The manufacturer should have the facility for customization of cadaver with pathologies or custom colour if needed
11. Size of the cadaver should be minimum 165cm and weight not more than 50 kg
12. Cadaver should have a life expectancy of atleast five years.

B) Specialized table/Tank for storage of the cadaver in preservation medium

1. Cadaver tank should be made of rust proof stainless steel SS 304 grade
2. Should have a height adjustable tray with minimum size 180 x 70 cm.
3. The tank should have depth of atleast 40 cm
4. Height adjustment should be possible using crank mechanism
5. The table/tank should be equipped with covers
6. Should have lockable wheels for ease of mobility

BS Singh
3/9/2021
डॉ. ब्रिजेन्द्र सिंह / Dr. Brijendra Singh
आचार्य एवं विभागाध्यक्ष / Professor & Head
शरीर रचना विभाग / Department of Anatomy
एम्स ऋषिकेश / AIIMS, Rishikesh

C) Education Grade Life like synthetic Organs workstation as follows

1. Lung Organ

1. Lung model should be realistic synthetic organ made of real life like tissue material
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ.
4. The structural design of lung should be based on an amalgam of CT and MRI images from actual patients.
5. The synthetic tissues used in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.
6. Organ should be able to be incorporated into complex model systems for testing breathing circuits, bronchoscopes and respiratory devices.
7. It should be possible to select left or right lung.
8. Should be compatible with all known imaging equipment including x-ray, fluoroscopy, MRI and CT scanners.
9. Should be compatible with all known surgical devices including breathing circuits, lasers, RF ablation, bipolar, monopolar and harmonic devices.
10. Synthetic human tissues should be made from salt, water and fiber, which should feature realistic tactility.
11. Synthetic human tissues should match the acoustical characteristic of real human tissue.
12. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty. Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

2. Prostate Organ

1. Prostate model should be realistic synthetic organ made of real life like tissue material
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ.
4. The structural design should be based on CT and MRI images from actual patients
5. The synthetic tissues used in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.
6. The prostate gland should be available in several sizes and should include various pathologies (fluid filled cysts, fibrous cysts, calcified nodules, benign prostate hyperplasia).
7. It should be possible to be in-corporated into model systems for manual digital exam training, radiological imaging acquisition training and device testing.
8. It should be compatible with all known imaging equipment including ultrasound, x-ray, fluoroscopy, MRI and CT scanners.
9. Should be compatible with all known surgical devices including needles, scalpels, lasers, RF ablation, bipolar, monopolar and harmonic devices.
10. Synthetic human tissues should be made from salt, water and fiber, which should feature realistic tactility.
11. Synthetic human tissues should match the acoustical characteristic of real human tissue.
13. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty. Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

3. Uterus

1. Uterus model should be realistic synthetic organ made of real life like tissue material.
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ.
4. The structural design should be based on an amalgam of CT and MRI images from actual patients
5. The synthetic tissues employed in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.

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6. It should complex multi-component structure with cervix, inner and outer os, fallopian tubes and ovaries.
7. The organ should be available with patent arterial and venous vasculature, a variety of pathologies and states of pregnancy.
8. It should be able to be incorporated into complex model systems for hysterectomy and pelvic sling surgery training.
9. It should be compatible with all known imaging equipment including MRI, CT, fluoroscopy and ultrasound.
10. Should be compatible with all known surgical devices including lasers, RF ablation, bipolar, monopolar and harmonic devices.
11. Synthetic human tissues should be made from salt, water and fiber, which should feature most realistic tactility.
12. Synthetic human tissues should match the acoustical characteristic of real human tissue.
13. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty. Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

4. Esophagus

1. Esophagus model should be realistic synthetic organ made of real life like tissue material
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ.
4. The structural design should be based on an amalgam of CT and MRI images from actual patients
5. The synthetic tissues employed in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.
6. Should be Moist pink mucosa, submucosa, muscularisexterna, and adventitia, approximately 25 cm long.
7. It should be able to be incorporated into complex model systems for the testing of esophageal dilators and stents.
8. Should be compatible with all known imaging equipment including x-ray, fluoroscopy, MRI and CT scanners.
9. Should be compatible with all known surgical devices including dilators, stents, sutures, lasers, RF ablation, bipolar, monopolar and harmonic devices.
10. Synthetic human tissues should be made from salt, water and fiber, which should feature most realistic tactility.
11. Synthetic human tissues should match the acoustical characteristic of real human tissue
12. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty. Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

5. Gall Bladder

1. Gall Bladder model should be realistic synthetic organ made of real life like tissue material
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ.
4. The structural design should be based on an amalgam of CT and MRI images from actual patients
5. The synthetic tissues employed in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.
6. Should have Muscular outer shell with inner mucosal lining.
7. It should be able to be incorporated into complex model systems for the investigation of gallstone treatments.
8. Should be compatible with all known imaging equipment including MRI, CT, fluoroscopy and ultrasound.

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G. Singh

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B. Singh
31/8/2021

डॉ. ब्रिजेन्द्र सिंह/ Dr. Brijendra Singh
आचार्य एवं विभागाध्यक्ष /Professor & Head
शरीर रचना विभाग /Department of Anatomy
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9. Should be Compatible with all know surgical devices including lasers, RF ablation, bipolar, monopolar and harmonic devices.
 10. Synthetic human tissues should be made from salt, water and fiber, which should feature most realistic tactility.
 11. Synthetic human tissues should match the acoustical characteristic of real human tissue.
 12. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty .Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

6. Kidney

1. Kidney model should be realistic synthetic organ made of real life like tissue material
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ .
4. The structural design should be based on an amalgam of CT and MRI images from actual patients
5. The synthetic tissues employed in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.
6. Should have skinned outer structure with separate adrenal glands.
7. The organ should be available with patent and functional renal pelvis, ureter, renal artery and renal veins.
8. Should select left or right kidney and organ complexity.
9. It should be able to be incorporated into complex model systems for kidney transplant training and urinary device testing.
10. Should be compatible with all known imaging equipment including ultrasound, x-ray, fluoroscopy, MRI and CT scanners.
11. Should be compatible with all known surgical devices including lasers, RF ablation, bipolar, monopolar and harmonic de-vices.
12. Synthetic human tissues should be made from salt, water and fiber, which should feature most realistic tactility.
13. Synthetic human tissues should match the acoustical characteristic of real human tissue.
14. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty .Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

7. Pancreas

1. Pancreas model should be realistic synthetic organ made of real life like tissue material
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ .
4. The structural design should be based on an amalgam of CT and MRI images from actual patients
5. The synthetic tissues employed in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.
6. Should have textured surface with pancreatic notch, head, body and uncinat process.
7. The organ should also be available with bile ducts and the primary arterial and venous trunks.
8. It should be able to be incorporated into complex model systems for pancreatic tumor removal and testing gallstone treatment devices.
9. Should have select organ complexity.
10. Integration with the larger biliary system should be available on the liver.
11. It should be compatible with all known imaging equipment including MRI, CT, fluoroscopy and ultrasound
12. Should be compatible with all known surgical devices including harmonic scalpel, lasers, RF ablation, bipolar, monopolar and harmonic devices.
13. Synthetic human tissues should be made from salt, water and fiber, which should feature most realistic tactility.
14. Synthetic human tissues should match the acoustical characteristic of real human tissue.

M. Singh

A. Singh

Dr. Brijendra

B. Singh
31/9/2021

डॉ. ब्रिजेन्द्र सिंह/ Dr. Brijendra

आचार्य एवं विभागाध्यक्ष /Professor & Head

शरीर रचना विभाग /Department of Anatomy

एस कृषिकेश /AIIMS, Rishikesh

15. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty. Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

8. Penis

1. Penis model should be realistic synthetic organ made of real life like tissue material
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ.
4. The structural design should be based on an amalgam of CT and MRI images from actual patients
5. The synthetic tissues employed in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.
6. Should have shaft with patent urethra, glans, meatus and foreskin.
7. Should incorporated into complex model systems for the testing of medical devices and equipment.
8. Should be compatible with all known imaging equipment including x-ray, fluoroscopy, MRI and CT scanners.
9. Should be compatible with all known surgical devices including lasers, RF ablation, bipolar, monopolar and harmonic devices.
10. Synthetic human tissues should be made from salt, water and fiber, which should feature most realistic tactility.
11. Synthetic human tissues should match the acoustical characteristic of real human tissue.
12. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty. Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

9. Small Intestine

1. Small Intestine model should be realistic synthetic organ made of real life like tissue material
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ.
4. The structural design should be based on an amalgam of CT and MRI images from actual patients
5. The synthetic tissues employed in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.
6. Should have Duodenum, Jejunum and Ileum and should be preloaded with waste matter.
7. Should have select organ size and color.
8. Should be able to be incorporated into complex model systems for the testing of medical devices and equipment.
9. Should be compatible with all known imaging equipment including x-ray, fluoroscopy, MRI and CT scanners.
10. Should be compatible with all known surgical devices including atraumatic bowel graspers, laparoscopic scissors, harmonic scalpels, scalpels, suction devices, GIA endostaplers, trocars, 30 degree scopes, sutures, various clamps and scissors, hand ports and TA staplers.
11. Synthetic human tissues should be made from salt, water and fiber, which should feature most realistic tactility.
12. Synthetic human tissues should match the acoustical characteristic of real human tissue.
13. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty. Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

10. Spleen

1. Spleen model should be realistic synthetic organ made of real life like tissue material
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ.

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24/2021

डॉ. ब्रिजेन्द्र सिंह / Dr. Brijendra
आचार्य एवं विभागाध्यक्ष / Professor
शरीर रचना विभाग / Department of
एम्स ऋषिकेश / AIIMS, Rishikesh

4. The structural design should be based on an amalgam of CT and MRI images from actual patients
5. The synthetic tissues employed in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.
6. Should have skinned outer structure. Should also be available with the splenic vein and artery.
7. Should have anatomy and pathology options.
8. It should be incorporated into complex model systems for transplant training and medical device testing.
9. Should be compatible with all known imaging equipment including ultrasound, x-ray, fluoroscopy, MRI and CT scanners.
10. Should be compatible with all known surgical devices including needles, scalpels, lasers, RF ablation, bipolar, monopolar and harmonic devices.
11. Synthetic human tissues should be made from salt, water and fiber, which should feature most realistic tactility.
12. Synthetic human tissues should match the acoustical characteristic of real human tissue.
13. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty. Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

11. Stomach

1. Stomach model should be realistic synthetic organ made of real life like tissue material
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ.
4. The structural design should be based on an amalgam of CT and MRI images from actual patients
5. The synthetic tissues employed in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.
6. Should have Multilayered structure with thin muscular outer jacket, thick muscle middle layer and lubricious mucosal lining. Organ includes fundus and anchor points for pyloric and cardiac sphincters.
7. Should have option for Attaching esophagus
8. It should be able to be incorporated into complex model systems for the testing of gastrointestinal devices.
9. Should be compatible with all known imaging equipment including ultrasound, x-ray, fluoroscopy, MRI scanners and CT scanners.
10. Should be compatible with all known surgical devices including endoscopes, lasers, RF ablation, bipolar, monopolar and harmonic devices.
11. Synthetic human tissues should be made from salt, water and fiber, which should feature most realistic tactility.
12. Synthetic human tissues should match the acoustical characteristic of real human tissue.
13. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty. Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

12. Trachea

1. Trachea model should be realistic synthetic organ made of real life like tissue material
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ.
4. The structural design should be based on an amalgam of CT and MRI images from actual patients
5. The synthetic tissues employed in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.
6. Should have D-shaped luminal superstructure, individual hyaline cartilage rings with trachealis muscles, lubricious mucosal layer and muscular jacket material.
7. It should be compatible with all known imaging equipment including x-ray, fluoroscopy, MRI scanners and CT scanners.

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8. Should be compatible with all know surgical devices including bronchoscopes, lasers, RF ablation, bipolar, monopolar and harmonic devices.
9. Should be able to be incorporated into complex model systems for the testing of endotracheal tubes, bronchoscopes and drug delivery devices.
10. Should have select construction type, branch complexity and tissue hue below.
11. Synthetic human tissues should be made from salt, water and fiber, which should feature the world's most realistic tactility.
12. Synthetic human tissues should match the acoustical characteristic of real human tissue.
13. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty. Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

13. Liver

1. Liver model should be realistic synthetic organ made of real life like tissue material
2. Should be possible to be used as an alternative to human organ in basic anatomy classes.
3. Tissues of organ should mimic mechanical, dielectric and physico-chemical properties of live tissue. It should give look and feel of a live human organ.
4. The structural design should be based on an amalgam of CT and MRI images from actual patients
5. The synthetic tissues employed in construction should be validated against the mechanical, physicochemical, thermal and dielectric properties of living tissue.
6. Should have skinned outer shell with lobed structure. Should also be available with the primary arterial and venous trunks, complete biliary system and a variety of pathologies.
7. Should be available with biliary system options.
8. It should be able to be incorporated into complex model systems for liver transplant training and biliary stent testing.
9. Should be compatible with all known imaging equipment including MRI, CT, fluoroscopy and ultrasound.
10. Should be compatible with all known surgical devices including lasers, RF ablation, bipolar, monopolar and harmonic devices.
11. Synthetic human tissues should be made from salt, water and fiber, which should feature the world's most realistic tactility.
12. Synthetic human tissues should match the acoustical characteristic of real human tissue.
13. Should be biohazard and formaldehyde-free and should not pose any health risks to students/faculty. Should allow Realistic anatomy teaching and training without specialized facilities or compromising a live patient.

F) Audio and visual system for Anatomy Lab should be supplied complete with

- i) Ceiling Mounted Camera system with pan tilt zoom
- ii) Digital Video Recording system,
- iii) Wireless Mike, Collar Mike
- iv) Overhead Projector
- v) 50" high resolution LED Screens-4nos for simultaneous display and recording of class and teaching activities

G) Maintenance Kit- with consumables for maintenance of Synthetic cadaver and organs for a minimum period of three years

H) The vendor should undertake Operation and maintenance of Anatomy lab through trained professional for a period of three years from date of installation

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G. Sinha

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B. Singh
3/9/2024

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