NPTEL- DTH Swayamprabha Video Lectures in Anatomy

After the launch of the NPTEL-DTH Swayamprabha Project for Health Sciences in 2017, Dr (Lt Col) T Vijaya Sagar, Professor and Head, Dept of Anatomy, Sri Ramachandra Medical College and Research Institute, Porur, Chennai was nominated as the National Co-ordinator in Anatomy. Assisted and supported by IIT -Madras, Sri Ramachandra Medical College set up the Swayamprabha AV studio in its campus premises by December 2017. All Video lectures in Anatomy for this project have been recorded at the Swayamprabha Studio. From its humble beginnings, the full fledged studio now boasts of dedicated recording equipment, graphics and animations team, videographers, recording technicians and post-production managers.

The subject of Human Anatomy is vast and takes up almost two thirds of the time allotted for I year MBBS. As per the new competency based curriculum of the Medical Council of India which has been put into effect from August 2019, 675 hours of teaching are allotted to Anatomy. The subject syllabuswhich has to be completed in a time frame of 13 months. Teaching such a vast subject within a limited time frame hardly gives the students a second chance of listening to a lecture once again and understanding the concepts or performing a dissection procedure. With new medical colleges coming up and paucity of trained teachers in the subject, the NPTEL- DTH Swayamprabha project in basic clinical sciences will provide a tremendous supplement to classroom teaching for medical students. Medical students from all over the country will have the opportunity to listen in to lectures delivered by faculty from reputed medical colleges in India. The biggest advantages of e-learning include flexibility in timing and location, pacing lessons as per user's choice and consistent delivery of academic content. As is happening in most institutes of higher learning across the world, NPTEL-Swayamprabha project endeavours to leverage emerging technologies to provide exciting learning opportunities.

The subject of Human Anatomy includes three broad components namely (i) **Gross anatomy**, which is the study of structure of the human body and relationships amongst organs and viscera as seen by the naked eye and assisted by dissections on human cadavers (ii) **Histology** which is the study of microscopic structure of normal tissues - an important pre-requisite for the subsequent study of Pathology and (iii) **Embryology** - which is the study of the development of the human being in the womb from the time of conception and includes the development of various organs and organ systems. Apart from these three main components, certain smaller but nonetheless important components include **Osteology** (study of Bones), **Radiology** (study of normal X rays and other imaging modalities like CT, MRI, USG) and **Surface Anatomy** (study of body surface projection of various organs and anatomical structures).

ANATOMY

Phase I of this project has completed 40 video recordings in important topics of gross anatomy which have a significant clinical relevance. Phase II of the project is underway with video recordings being conducted in topics of gross anatomy, general anatomy and histology. Phase II of recordings are likely to be completed by December 2019. Phase III of the project will include lectures in Neuroanatomy and Embryology. Teachers of Human Anatomy from reputed colleges have been allotted lectures for Phase III which is likely to be completed by May 2020. These video lectures will be added into the project as and when peer reviews of the lectures are completed.

Teaching in front of a Video Cameras has been a unique, first time experience even to most experienced teachers. While teachers are comfortable lecturing in a classroom environment, teaching in a studio with no students for interaction had posed a unique problem which involved extensive retraining of teachers. As teachers get proficient in this very demanding way of delivering lectures, it is felt that the quality of lectures will gradually and significantly improve. Feedback from the users is actively solicited as it will help in improving the quality of lectures and deliver customized learning. Feedback will help us in recreating lessons which can be improved upon and made better. With suitable feedback, ways of incorporating testing elements in the lessons are also being actively pursued. The final aim of the project would be to adopt the 4 quadrant approach of the SWAYAM programme namely educational videos, Suggested reading PDF documents, discussion fora and evaluation.

Dr (Lt Col) T Vijaya Sagar,
National Co-ordinator (Anatomy)

PHASE I

1.1. ANATOMY

1.1.1. UPPER LIMB

S.No	Topic	Name of the expert	Duration
1	Brachial Plexus	Dr T Vijaya Sagar	00:50:45
2	Mammary Gland	Dr Gaurav Agnihotri	00.17.44
3.	Shoulder Joint	Dr Gunapriya Raghunath	00.27.59
4.	Median Nerve	Dr Shubha Sudarshan	00.56.21
5.	Radial nerve	Dr Rema Devi	00.22.56
6.	Palmar spaces	Dr Daksha Dikshit	00.39.14

1.1.2. LOWER LIMB

S.No	Topic	Name of the expert	Duration
7.	Hip Joint	Dr T Vijaya Sagar	00.30.15
8.	Knee Joint	Dr T Vijaya Sagar	00.59.32
9.	Sciatic Nerve	Dr Shubha Sudarshan	00.21.02
10.	Popliteal fossa	Dr D Ravichandran	00.42.11
11.	Arches of the foot	Dr Rema Devi	00.26.30
12.	Venous Drainage of lower limb	Dr Daksha Dixit	00.31.56

1.1.3. THORAX

S.No	Topic	Name of the expert	Duration
13.	Gross anatomy of Heart	Dr Gaurav Agnihotri	00.25.13
14.	Coronary Circulation	Dr Shubha Sudarshan	01.04.54
15.	Lungs	Dr Rema Devi	00.45.16
16.	Pericardium	Dr D Ravichandran	00.32.59
17.	Mediastinum Part I	Dr Shubha Sudarshan	00.59.59
18	Mediastinum Part II	Dr Shubha Sudarshan	00.44.37

1.1.4. ABDOMEN

S.No	Topic	Name of the expert	Duration
19	Inguinal Canal	Dr Daksha Dixit	00.49.50
20	Testis & Spermatic cord	Dr D Ravichandran	00.34.58
21	Stomach	Dr Daksha Dixit	00.54.00
22	Liver	Dr Gaurav Agnihotri	00.21.19
23	Portal Vein	Dr Gaurav Agnihotri	00.26.30
24	Duodenum	Dr Gunapriya Raghunath	00.26.53
25	Pancreas	Dr Daksha Dixit	00.35.45
26	Caecum and Vermiform appendix	Dr Shubha Sudarshan	00.40.57
27	Kidneys	Dr T Vijaya Sagar	00.43.30

1.1.5. PELVISPERINEUM

S.No	Topic	Name of the expert	Duration
28	Ischioanal fossa	Dr Gaurav Agnihotri	00.41.19
29	Uterus	Dr Daksha Dikshit	01.17.55
30	Prostate gland	Dr Shubha Sudarshan	00.39.38

1.1.6. HEAD & NECK

S.No	Topic	Name of the expert	Duration
31	Anterior triangle of neck	Dr Gaurav Agnihotri	00.54.27
32	Parotid Gland	Dr Daksha Dikshit	00.44.18
33	Thyroid Gland	Dr Shubha Sudarshan	00.53.21
34	Submandibular gland	Dr Gaurav Agnihotri	00.19.54
35	Tongue	Dr T Vijaya Sagar	
36	Soft Palate	Dr Gaurav Agnihotri	00.33.43
37	Pharynx	Dr Shubha Sudarshan	01.01.03
38	Larynx	Dr Daksha Dikshit	01.05.36
39	Dural Venous Sinuses	Dr Daksha Dixit	00.55.32
40	Middle Ear	Dr Rama Devi	00.41.04
41	Lateral wall of Nose	Dr Daksha Dixit	00.34.21
All Lecture total			**27.35.19**

PHASE II

S.No	Category	Topic	Name of the expert	Duration
1	General Anatomy	General Anatomy of the Muscle	Dr. Medora C. D'Souza Dias	00:50: 53
		Bone	Dr. Medora C. D'Souza Dias	00:50: 49
		Joints	Dr Pallavi Bajpaee	00:37: 53
		Skin and Fascia	Dr. Mouna Subbaramaiah	00:54: 41
2	General Histology	Histology of Bone	Dr Pallavi Bajpaee	00:32: 57
		Nerve & Ganglia histology	Dr. Medora C. D'Souza Dias	00:42: 47
		Blood vessels histology	Dr. Medora C. D'Souza Dias	00:38:14
		Lymphatic system	Dr. K. Aparna Vedapriya	1: 25:29
3	General Embryology	Gametogenesis	Dr Rose	1: 05: 11
		Female Reproductive Cycle	Dr Rose	00:40: 27
		Fertilization	Dr Rose	00:23:55
		Implantation 1st Week Of Intrauterine Life	Dr Rose	00:39: 35
		Week 2 of Intrauterine life	Dr Rose	00:45: 16
		Week 3 of Intrauterine life	Dr Rose	00:43: 47
		4th to 8th Week of Intrauterine life - Part 1	Dr Rose	00:29: 24
		4th to 8th Week of Intrauterine life - Part 2	Dr Rose	00:37: 44
		3rd month to birth	Dr Rose	00:29: 39
		Development of Gut tubes	Dr Rose	00:44: 27
		Pharyngeal Appartus	Dr Rose	00:41: 50
		Placenta	Dr Rose	00:55: 44
		Twinning	Dr Rose	00:25: 17

Gross Anatomy				
4	Upper Limb	Axilla and Axillary Artery	Dr Pallavi Bajpaee	00:29: 43
5	Lower Limb	Ankle joint and subtalar joint	Dr. Medora C. D'Souza Dias	00:43: 33
6	Thorax	Arch of Aorta	Dr. Mouna Subbaramaiah	00:27: 35
7	Abdomen & Pelvis	Abdominal aorta & inferior vena cava	Dr. Medora C. D'Souza Dias	00:43: 34
8	Abdomen & Pelvis	Gross Anatomy of Anal Canal	Dr. Kalpana Ramachandran	00:42: 47
9	Head & Neck	Deep Cervical Fascia	Dr Pallavi Bajpaee	00:34: 59
		3,4,6 Cranial nerves	Dr. K. Aparna Vedapriya	00:38: 48
		Glossopharyngeal and Hypoglossal Nerves	Dr. K. Aparna Vedapriya	00:47: 38
		Facial Nerve	Dr. K. Aparna Vedapriya	00:43: 25
10	Systemic Histology	Histology of the liver, Gall ladder & Pancreas	Dr. Medora C. D'Souza Dias	00:59: 41
		Functions of Kidney	Dr. Kalpana Ramachandran	00:50: 03
		Microscopic anatomy of ureter & Urinary bladder	Dr. Kalpana Ramachandran	00:34: 06