THE SYNAPSES

ISVS NEWSLETTER

Editor: Ashok Kumar

Associate Editor: Deepak Kumar Tiwar

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From the Desk of President

Dear ISVS Members.

Welcome to the 46th Annual Congress of Indian Society for Veterinary Surgery and National Symposium on "Emerging Trends in Farm, Companion and Wild Animal Surgery" to be held during December 06-08, 2023 at College of Veterinary Science & Apriculture and Technology, Bhubaneswar.

I am happy that 'The Synapses' is seeing the light of the day, albeit delayed.

This Newsletter facilitate dissemination of local news related to clinical activities, clinical updates, promotions, superannuation etc. to all the ISVS Members and those who visit ISVS Website.

I request all the Members to contribute on regular basis for "The Synapses" in order to make it more vibrant, in future.

Looking to meet you all at Bhubaneswar!

N. H. Kelawala

From Executive Secretary Pen

Dear Members,

Greetings from ISVS!

I am elated to note that 'The Synapses' started transmitting local updates to all the ISVS Members, giving a fresh breath! Thanks to Dr. Ashok Kumar, Editor and Dr. Deepak Kumar Tiwari, Associate Editor of ISVS Newsletter. Hope we will sustain this!

I am confident of the Synaptic Function with cooperation of one and all.

I request all to participate in the forthcoming ISVS-2023, 46th Annual Congress of Indian Society for Veterinary Surgery and National Symposium on "Emerging Trends in Farm, Companion and Wild Animal Surgery" to be held during December 06-08, 2023 at College of Veterinary Science and Animal Husbandry, Odisha University of Agriculture and Technology, Bhubaneswar.

Looking forward to meet you all!



From the Editor

Dear Members,

We are back with the July edition of the newsletter and a lot of information of your interest. Although, the issue is slightly late due to some reasons but it is well said that it is better late than never. At the outset, I must congratulate Dr. S. V. Upadhye and his team to organise a wonderful conference at the orange city, Nagpur. The event was a masterpiece, a symphony of perfectly orchestrated details. Every element was carefully considered and executed with precision, from the elegant décor to the delicious food to



the seamless flow of the evening. It was a testament to the hard work and dedication of everyone involved that everything turned out so perfectly. It was a truly special occasion, and one that will be remembered for years to come. You must be aware that 46th Annual Congress of Indian Society for Veterinary Surgery and National Symposium on "Emerging Trends in Farm, Companion and Wild Animal Surgery" is being organised by the Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Odisha University of Agriculture and Technology, Bhubaneswar, Odisha from December 06 - 08, 2023. I hope that the congress will be a fabulous experience for everyone.

FEATURE

ENDOSCOPY AND ENDOSURGERY: A PERSPECTIVE

Diagnosis of diseases of the thoracic and abdominal cavity is often challenging because many signs and symptoms are nonspecific. In certain instances, the process becomes easy, by a sign or symptom (or a group of symptoms), that are pathognomonic such as continuous whining, frequent movement of the neck



towards the flank and palpation of sausage shaped intestinal lumen is pathognomonic for intussusception in young pups. However, in many disease conditions it can be challenging, for example, frequent vomiting could be due to foreign body, ulcers, intraluminal masses, liver or kidney affection as well. Therefore, differential diagnosis, in which numerous possible explanations are compared and contrasted, must be performed. This can be performed on the basis of medical signs and reported symptoms called as clinical diagnosis or on the basis of laboratory reports, radiology findings, electrographic diagnosis, biopsy or histopathology or endoscopic diagnosis. Endoscopy is a relatively non-invasive, atraumatic and more sensitive tool for detection of morphological alteration in the

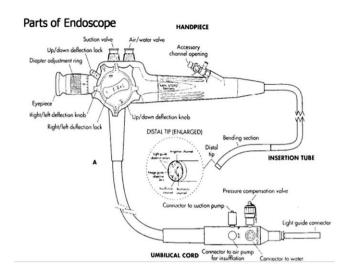
Endoscopy is a relatively non-invasive, atraumatic and more sensitive tool for detection of morphological alteration in the organs. It is derived from Greek by combining the prefix "endo" meaning inner and the verb "skopein" meaning to view or observe with a purpose". Endoscopic surgery or endosurgery or "Band-Aid Surgery" or "Key hole surgery" is so called because the incision to enter the body cavities are so small that they can be covered with adhesive bandage strip, are some of the other terminologies used. The modern endoscopy system except for capsule endoscope has three main components: The Camera (Rigid/ flexible), Light source and Light transmitting cable.

Flexible endoscopy

It is used in anatomic areas where there is a tube or lumen through which the device can be passed around the corners or bends such as gastroscopy, bronchoscopy, cystoscopy, colonoscopy etc. It also allows descriptive or photographic documentation of the findings and has the advantage of providing accurate diagnosis through biopsy, cytological examination and fluid estimations. Similarly, it can also be useful for retraction of foreign bodies and extraction of tumours and visual evaluation of progress of healing, for its proper management.

Flexible endoscopes are of various types:

- a. Fiberscope/ Fiberoptic endoscope: The image is carried from the distal tip of the endoscope to the eyepiece via bundles of opticalglass fibers. These are less expensive as compared to video endoscopes. They are available in wide ranges. However, if the optical fibres are broken, the image appears with numerous black spots.
- b. **Video endoscope:** The image is transmitted electronically to a video monitor from distal tip of the endoscope where it is sensed by a charged coupled device (CCD) chip. The mechanical functions of the video endoscopes are similar to those of a fiberscope. The image quality is excellent, however, they are not available in small diameters.
 - Video systems offer distinct advantages in terms of operator comfort, client relations, teaching and documentation. Indirect video endoscopy can be accomplished by attaching an endoscopic video camera to the eyepiece of a fiberscope. Video endoscope provides high image quality. Similarly, as image does not depend on individual glass fibers, image defects are not noted.
- c. Capsule Endoscope: It moves freely in the digestive system and sends pictures to the monitor.



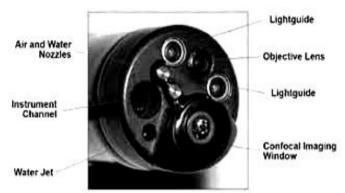


Diagrammatic representation of the parts of the flexible endoscope and the endoscopic workstation

Components of Veterinary flexible endoscope

The endoscopic imaging chain includes the light source, light transmitting cable, endoscope, camera and monitor. The flexible endoscope has three main sections viz; the insertion tube, the handpiece and the umbilical cord. Veterinary endoscopes are now available in various sizes.

a. Insertion tube: The diameters of insertion tubes range from < 1 mm to upto 14 mm. Most scopes of > 2 mm have an accessory channel and a deflectable tip, which are desirable features when performing GI endoscopy. The endoscope lengths range from 55 cm to 170 cm. Longer scopes (> 125 cm) are often required for duodenoscopy and colonoscopy in large-breed dogs. Gastroscopes are excellent endoscopes for most practices because they are versatile and have a 4-way tip deflection and functional accessory channels. A gastroscope of < 9 mm and at least 100 to 125 cm in length can be used for common procedures in most canine and feline patients. Larger diameter Gastroscopes (> 7.8 mm) cannot be used for bronchoscopy, rhinoscopy, and urethrocystoscopy in cats or small dogs. Hence, clinics that routinely perform such procedures should consider a second smaller scope, such as a 5.4 mm to 6 mm endoscope.



Cross section of the insertion tube

- b. **Hand piece:** It contains the eye piece with its diopter adjustment ring, air/ water and suction valves, deflection control knobs and locks and accessory channel opening. It is designed to be held in the left hand. The index finger controls suction by fully depressing the first (front) valve. The air / water valve can be control by the index or middle finger. Insufflation is activated by placing the finger tip over the hole in the top of the valve and irrigation is activated by fully depressing the valve. The thumb of left hand is used to control up / down deflection knob. The right hand controls
 - Left / right deflection knob
 - · Inserts channel accessories
 - Advances the insertion tube, applying rotational torque when necessary
- c. Umbilical cord: It contains the portion of fiberscope that connects light source, including connector for insufflations and irrigation in gastro intestinal scope. As it contains light carrying fiber bundle, it should be handled with caution. The light source for GI fiberscope generally contains the integral air pump that provides air for insufflations and air passage for forcing water from attach bottle through irrigation channel. A separate connector for suction allows the tube to be attached to an independent suction pump. A pressure compensation valve in this region prevents damage from the external pressure charge. A manometer type pressure tester attached to this valve is used to check for internal leakage.

The accessories of flexible endoscopy include: biopsy forceps, grasping forceps, aspiration, cytology, electro surgery, laser surgery, pump for suction, insufflations and irrigation, polypectomy snares, coagulating electrodes, attached video camera for monitor viewing, videotaping, printing and digital storage or transmission. They are available as reusable/disposable accessories.





Radiographic diagnosis and endoscopic retrieval of foreign body

Procedures that can be commonly performed using flexible endoscopes: Bronchoscopy, colonoscopy, esophagoscopy, gastroduodenoscopy, ureteroscopy, urethrocystoscopy, nasopharyngoscopy and tracheoscopy.

Rigid endoscopy

This is basically used for diagnosis and surgical treatment of extraluminal affections of the body cavities. High quality, medical grade telescopes which do not bend but have varying fields of view can be used for laparoscopy, theileroscopy, thoracoscopy, arthroscopy, rhinoscopy etc. Rigid telescopes are now available in varied diameters and lengths. When choosing telescope size, one should choose the largest diameter possible to maximize light transmission and field of vision. Outer telescope diameters range from 1.9 mm to 10 mm while lengths range from 10 cm to 35 cm. Viewing angles range from 0° to 120°, though angles greater than 30° are rarely used in veterinary practice. A forward viewing telescope (0°) is easiest to maneuver but provides a more limited view when compared to a 30° viewing angle.

Sheath/Cannula: Telescopes are typically used in conjunction with a sheath or cannula. An operational sheath provides a conduit for diagnostic or surgical instruments, facilitates the ingress/egress of gas or fluid, and protects the scope.

The 2.7-mm rigid endoscope is a common, versatile telescope for veterinary practitioners that can be used for urethrocystoscopy (females), antegrade rhinoscopy, and otoscopy. The operating sheath can accommodate a 5-Fr flexible instrument, such as some biopsy forceps.

Semi-rigid telescopes are available in very small diameters (1 mm) for evaluation of small lumens (i.e., male cat urethra). Unfortunately, they have reduced optical quality and are rarely used. Larger telescopes are required for body cavity evaluation and are always used in combination with a trocar and cannula.

Trolley with Equipment's

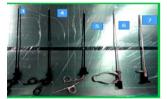
- 1. LCD Monitor
- 2. Xenon Cold light source with fiberoptic cable
- 3. Telecam with 1-chip camera head and cable
- 4. Electronic carbon dioxide endoflater
- 5. Documentation system AIDA (optional)
- 6. Electrocautery unit 200W
- 7. Vessel Seal Unit
- 8. CO₂ Cylinder
- 9. Suction and Irrigation Unit
- 10. Foot paddle



Workstation for laparoscopy



Laparoscopic instruments for access of the body cavity (6 mm camera port, accessory port, Veress needle, 6 mm accessory port and 11 mm trocar with reducer)



5 mm Klickline grasping forcep, 5 mm scissor, 5 mm abdominal grasper, Bipolar cautery probe, 5 mm 0° telescope for performing endo or laparo-surgery



Veress needle insertion and hanging drop test for abdominal access



Abdominal distention due to pneumoperitoneum



Insertion of the camera port



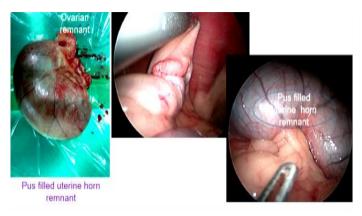
Insertion of the telescope and abdominal examination



Insertion of the accessory port under telescopic guidance

Endo-surgical procedures Diagnostic Laparoscopy

The most common indication for laparoscopy is for examination and biopsy of abdominal organs or masses. It provides better tissue samples than those obtained by other methods.



Laparoscopic Diagnosis of Ovarian remnant

Otoscopy

A multipurpose 1.9mm 0°telescope can be gently inserted down the external ear pinna until the aural sulcus where a blind ending diverticulum off the vertical canal can be seen. It helps in determining whether the tympanic perforation and otitis media. Lesions and exudates can be biopsied for cytologic, histopathologic and microbiologic investigations. Sterile saline is used to irrigate and clear debris as per necessity.



Otoscopy in dog

Rhinoscopy

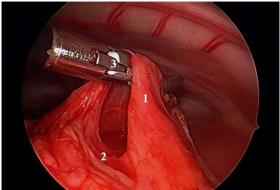
A 1.9 mm 0° telescope within a 10 Fr operating sheath permits saline irrigation and biopsy in animals of upto 1.5 kg, below that a 1.0 mm semi-rigid miniscope can be used.



Rhinoscopy in an Alsatian Dog

Thoracoscopy

For diagnostic purposes, a paraxiphoid approach, with soft tissue tunneling through the ventral aspect of the diaphragm is possible. Biopsies and simple surgical interventions (e.g. pericardiectomy) may be undertaken using a single-entry method. Multiple trocars and cannulae positioned through the intercostal spaces can be considered for more extensive procedures.



Thoracoscopy in dog

Theloscopy and Theloresectoscopy

Theloscopy and theloresectoscopy are wonderful tools in the hands of a veterinarian to diagnose and treat teat affections at an early stage, thereby decreasing the loss to farmers. It has been successfully used in cattle, buffalo and goats at Mumbai Veterinary College and some other veterinary institutes in India.



Axial theloscopy with metal sleeves in inflamed teat

Surgical Laparoscopy

The extensively used part of laparoscopy technique is for operatives of the abdominal disorders. Several operatives such as intestinal feeding tube placement, removal of intestinal foreign body, gastropexy, gastric plication for control of food intake and thereby weight management, ovariohysterectomy/ovariectomy, vasectomy, cryptorchidectomy, cystotomy can be performed routinely after acquainting with the technique. Other potential procedures include adrenalectomy, correction of portosystemic shunts, cholecystectomy, hernia repair, removal of abdominal and intestinal masses, endometriosis, etc.







Single Port Double Port aroscopic OVE Laparoscopic O

OVE/OVH L

Different Laparoscopic OVE techniques





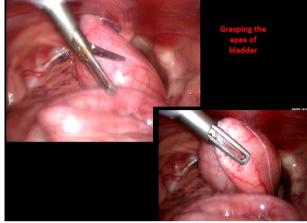


of the testicle

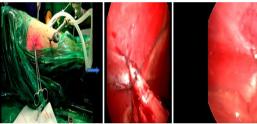
Cauterisation of the TAV

Testicle parked near bladder before exteriorization

Laparoscopic Cryptorchidectomy



Laparoscopy assisted Cystotomy



Laparoscopic incisional gastropexy

Conclusion

Endoscopy and Endosurgery are now useful adjuncts in the repertoire of the veterinary surgeon and provide minimally invasive approach to diagnose and treat affections of pet and domestic animals which only a few years ago were only in the realms of speculation. Endo-surgery is indicated because of the desire of the pet owner and the surgeon for reduction in adhesion formation, reduced or no postoperative pain, decreased recovery time and improved visualization or micromanipulation. The veterinary surgeon must have a thorough understanding of each specific surgical therapeutic technique, anaesthetic management including associated complications and contraindications. Learning endosurgery is inherent with some difficulties such as loss of depth perception, hand-eye co-ordination and small working space. Good hand-eye co-ordination is a prerequisite for the practicing surgeon. Continuous and dedicated practice is essential in order to hone this skill. Inanimate models can be used for the same so as to help improve psychomotor skills which are an integral part of laparoscopy or minimal invasive surgery. A dry lab becomes an integral part of a minimally invasive surgery training programme in order to gain, certify and improve expertise. Training in a surgery dry lab provides mastery of basic skills that allows trainees to focus on more complex issues, both technical and nontechnical in the operating room.

Dr. G. S. Khandekar

Professor and Head

Department of Veterinary Surgery & Radiology,

Mumbai Veterinary College, Parel, Mumbai - 400 012

Maharashtra Animal and Fishery Sciences University, Nagpur

AWARDS / HONOURS / RECOGNITIONS

Dr. B.P. Sukla received **Fellow** of **National Academy of Veterinary Sciences** in a two-day Convocation-*cum*-Scientific Convention on "*Strategies for enhancing productivity of Dairy Animals*" jointly organized by Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, and NAVS from July 01-02, 2023.



Dr. Tarun Kumar Gahlot, Editor of Journal of Camel Practice and Research, Ex-Professor and Head, Department of Veterinary Surgery and Radiology and Former Director of Clinics, Rajasthan University of Veterinary and Animal Sciences, Bikaner was nominated as a



member of Technical Committee of Camel Middle East Network (CAMENET) under the auspices of World Organization for Animal Health and Abu Dhabi Agriculture and Food Safety Authority, United Arab Emirates, formed for Research, Health and Development of Camels and related activities of GCC countries. Prof T. K. Gahlot told that three virtual meetings have already taken place and all members of Committee are expected to meet at Abu Dhabi in November 2023.

Dr. Samit Kumar Nandi, Professor and Former Head, Department of Veterinary Surgery and Radiology, West Bengal University of Animal and Fishery Sciences, Kolkata, and Fellow of NAVS was awarded **ICAR National Professor**. He joined the said post on 22.08.2023 for



a tenure of 5 years. Earlier Prof. Nandi received the Rafi Ahmed Kidwai Award for Outstanding Research in Agricultural Sciences 2021 in the category of Animal & Fisheries Sciences of the Indian Council of Agricultural Research, New Delhi.

Dr. M. Maravi, VAS, awarded jointly by District Magistrate District Gaurella Pendra Marwahi (CG) on Republic day 2023 for their contribution towards dairy sector.

Dr. Deboshri Bhowmik, VAS recieved honour from Collector, District Jabalpur (M.P.) for her dedication and extra ordinary work in veterinary profession and animal welfare.



Dr. Ranjna Malunkar, VAS, recieved honour from Collector, District Seoni (M.P.) for her contribution in veterinary profession.



Dr. Apoorva Mishra received Young Scientist Award in Veterinary Research given in 8th International Conference on Recent Advances in Agriculture, Animal Husbandry, Sciences and Technology for Sustainable Entrepreneurship organised by CAIE, Gwalior, AEDS, U.P,



Tribhuvan University, Research Centre for Applied Science and Technology, Kathmandu, Nepal and University of Debrecen, Hungary organised from March 26-28, 2023.

She also got the Best Ph.D. thesis award from the university. She was also besowed with the Excellence in Research award, presented in 2 days International Conference on "Current Advances in Agriculture, Animal Husbandry and Allied Sciences" jointly organised by Agriculture Research Council of Nigeria and National Agriculture Development Cooperative Ltd. (NADCL), Baramulla from July 10-11, 2023.

UPCOMING EVENTS

46thAnnual Congress of Indian Society for Veterinary Surgery and National Symposium on "Emerging Trends in Farm, Companion and Wild Animal Surgery" will be organized by the Department of Veterinary Surgery and Radiology, College of Veterinary Science & Animal Husbandry, Odisha University of Agriculture and Technology, Bhubaneswar, Odisha, from December 06-08, 2023. For details, one can contact Chairman-cum-Organising Secretary, Dr. Indramani Nath (Email:46isvs@gmail.com) or visit isvs.in



WORKSHOPS / TRAININGS / CONFERENCE / SYMPOSIA / CONVENTIONS / SEMINARS

45th Annual Congress of Indian Society for Veterinary Surgery and National Symposiumon "Computer Applications to Improve Surgical Outcomes in Pets and Livestock: Opportunities & Challenges" was organized by the Department of Veterinary Surgery and Radiology, Nagpur Veterinary College, Nagpur Highland Drive Road, Seminary Hills, Nagpur from January 11-13, 2023 The Congress received the overwhelming response from the scientist, academicians, students and field veterinarians and a total 582 delegates were present for the event from all over the country. During the congress the deliberations on various topics were delivered in total 15 different sessions during three days.

The inaugural ceremony was chaired by the Dr. N. H. Kelawala, Hon'ble Vice-Chancellor, Kamdhenu University, Ahmedabad and President, Indian Society for Veterinary Surgery; Dr. Prof. (Col.). N.P. Dakshinkar, Vice-Chancellor, Dau Shri Vasudeo ChandrakarKamdhenu University, Anjora, Durg (C.G.) was the Chief Guest of the function whereas the Guest of Honour was Prof. (Col.) Dr. A.M. Paturkar, Vice-Chancellor, MAFSU, Nagpur. The dias was shared by Dr. D.B. Patil, Executive Secretary, ISVS; Dr. N.V. Kurkure, Director of Research, MAFSU, Nagpur and Dr. S.V. Upadhye, D. I. & Dean (Vet. Sci.), MAFSU, Nagpur and Dr. A.P. Somkuwar, Associate Dean, Nagpur Veterinary College, Nagpur. The symposium began with Saraswati Vandana and the University song coupled with a video clip depicting the activities of the Department of Veterinary surgery & radiology of Nagpur Veterinary College. In the welcome address, Dr. S.V. Upadhye, Convener-cum-Organizing Secretary of the National Symposium narrated the purpose of the Symposium and relevance of the theme in the present era.

Various awardees of the 44th ISVS Symposium were felicitated during the inauguaral programme. The awards included ISVS fellowships, Associate Fellowships, Dr. Ratan Singh Memorial Award, Dr. O. Ramakrishna Memorial Award, Lifetime Achievement awards for excellence in Ruminant Surgery, Anaesthesiology, Radiology & Imaging, Orthopedic Surgery, and Wild & Zoo Animal Surgery. Various medals for session-wise best presentations during the last scientific sessions besides Best Clinician Award, Young Surgeon Award and Best clinical and best research awards for papers published in IJVS last year. More than 400 research/ clinical presentations were delivered during three days' period in 15 different sessions. The sessions included Theme, Anaesthesiology, Radiology & Imaging, Ruminant surgery, Equine surgery, Small animal surgery, Orthopedic surgery, Ophthalmology, Wild & Zoo animal surgery, Avian surgery and small and large animal poster sessions. The theme paper was delivered by the eminent personneland a leading Robotic and Laparoscopic Surgeon of the City, Dr. Prashant Rahate, Director, Seven Star Hospital, Nagpur and whereas various lead papers were presented in all the sessions by eminent surgeons and scientists of national repute. Various cultural programmes were organized by the students of Nagpur Veterinary College during the evening hours of the first day of

Symposium. The Symposium was concluded on 14th January, 2023 in the august presence of Dr. Mohanji Bhagwat, Sarsanghchalak, Rashtriya Swayam Sewak Sangh and the illustrious alumni of the Nagpur Veterinary College, Nagpur as the Chief Guest, Shri Girish Ji Shah, Member, Animal Welfare Board of India and the Founder Trustee of Samasta Mahajan, Mumbai, who has been into animal welfare activities, as the Guest of Honour. Dr. N.H. Kelawala, Vice-Chancellor, Kamdhenu University, Ahmedabad and President, Indian Society for Veterinary Surgery, Col (Dr) Prof. A.M. Paturkar, Vice-Chancellor, MAFSU, Nagpur and Dr. S.V. Upadhye, Director of Instructions & Dean, Faculty of Veterinary Science, MAFSU and the Organizing Secretary of the National Symposium.



Hon'be Vice-Chancellor, MAFSU and other dignitaries inaugurating the Symposium



Felicitation of Chief Guest Dr. N.P. Dakshinkar, Hon'ble Vice-Chancellor, DSVCKV, Durg



Release of ISVS 2022 Compendium



Dr Prashant Rahate delivering Theme Paper



Hon'ble Mohan Ji Bhagwat during Valedictory function







Indian Society for Advancement of Canine Practice ISACP-2023 conference

College of Veterinary Science & A.H., Anjora, Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Durg, Chhattisgarh and Indian Society for Advancement of Canine Practice (ISACP) organized XIX Annual Convention of Indian Society for Advancement of Canine Practice (ISACP) & National Symposium on "Recent Advances in Diagnostic, Therapeutic and Nutritional Management of Canine" from 20-22 April, 2023 at Durg. Dr. S.K. Tiwari, Dean of the college was the Organizing SECRETARY of this national conference of ISACP-2023. On this occasion about 250 delegates from 15 different states of the country has participated. Col. (Dr.) Prof. N.P. Dakshinkar, Hon'ble Vice Chancellor, DSVCKV, Durg presided over the function and Prof. Naresh H. Kelawala, Hon'ble Vice Chancellor, Kamdhenu University, Gandhinagar (Gujarat) was guest of honour in the inauguration function. In the closing ceremony Hon'ble Vice-Chancellor Prof. (Dr.) Col. N.P. Dakshinkar presided the function and Shri Pradeep Sharma Ji, Agriculture Advisor to Hon'ble Chief Minister, Govt. of Chhattisgarh and Shri Kshitij ChandrakarJi, President Professional Young Congress were guest of honour.



Welcome speech by Dr. S.K. Tiwari, Dean of Veterinary College Durg and Organizing Secretary ISACP-2023



Closing ceremony ISACP-2023 (Dr. S.K. Tiwari, Dean of Veterinary College Durg and Organizing Secretary ISACP-2023, Prof. S. Prathaban President ISACP, Dr. N.P. Dakshinkar, HVC, DSVCKV, Shri Pradeep Sharma, Advisor to Hon'ble CM CG Govt., Shri Chitij Chandrakar, President, AIPC and Dr. S.P. Ingole, DI, DSVCKV, Durg (From left to right)

The Training and Education Centre, IVRI, Pune organised a five-day hands-on training programme on 'Small Animal Fracture Fixation Techniques' from 20th to 24th February 2023, in collaboration with the Department of Animal Husbandry, Aundh, Pune (Maharashtra). Seventeen veterinary officers/ practitioners from different states such as Karnataka, Maharashtra, Himachal Pradesh, Gujarat, Rajasthan, Uttar Pradesh and West Bengal participated in the training programme.

The Chief Guest of the inaugural function of the training programme was Dr. V.D. Aher, Associate Dean, College of Veterinary Sciences, Shirwal, Satara. The Guests of Honour were Dr. Dhananjay D. Parkale, Ex-Additional Commissioner of Animal Husbandry, Maharashtra and Dr. Shitalkumar Mukane, Additional Commissioner of Animal Husbandry, Maharashtra.

Dr. H.P. Aithal, Station In-charge TEC Pune and the Course Coordinator, welcomed the guests and participants of the training programme, and briefed about the importance of the flagship training of TEC on fracture fixation techniques for the advancement of surgical skill and knowledge of practicing veterinarians. Dr. V.D. Aher, Chief Guest of the function appreciated the efforts of IVRI, Pune in organising the need based training programmes for the veterinarians and offered full support from the College in organising such programmes. He appreciated the participants who came from different parts of the country and urged them to make full use of the training in learning latest skills in treating fracture cases. Dr. D.D. Parkale appreciated the efforts of TEC Pune and noted that due the trainings organised by the Centre on fracture fixation, a large number of field veterinarians across the region have started treating the fracture cases, even in large animals. Dr. Shitalkumar Mukane pledged continued support to IVRI in organising different programmes.

The training included lectures, demonstrations and hands-on training on different external, internal and external skeletal fixation techniques such as application of splint-bandage, fibre glass cast, modified Thomas splint, different techniques of IM pin fixation (normograde and retrograde techniques, cross pinning, stack pinning etc.), interlocking nailing, bone plating (DCP and LCP) and external skeletal fixation (liner and circular) techniques. Lectures also included principles of fracture fixation including basic structure and development of bone, bone growth regulation, fracture types, healing and factors affecting healing, orthopaedic instruments, bone grafting and bone tissue engineering, complications offracture fixation, arthritis and joint luxations, and orthotics and prosthetics in small animal orthopaedics. The expert faculty included Dr. H.P. Aithal, Principal Scientist from TEC Pune, Dr. Satyawan Agivale and Dr. Shalaka Chauhan, Assistant Professors from College of Veterinary Sciences, Shirwal, Satara. Online lectures were also given by Dr. R.V. Suryawanshi, Assistant Professor, College of Veterinary Sciences, Udgir; Dr. Aswathy Gopinathan (Senior Scientist), Dr. Kiranjeet Singh (Principal Scientist), and Dr. Rekha Pathak (Principal Scientist), Division of Surgery, IVRI, Izatnagar; Dr. R.B. Kushwaha, Associate Professor, Faculty of Vet. Sciences, Jammu; Dr. A. Velavan, Assistant Professor, Madras Veterinary College; and Dr. Surbhi K. Tyagi, Assistant Professor from COVAS, SVPUAT-Meerut. Dr. S.M. Shete, LDO (Maharashtra) one of the earlier batch trainees, spoke on the importance of the hands-on training and narrated his field experience. All the participants were very enthusiastic, took keen interest and actively participated in the hands-on training.

The valedictory function of the training was held on 24th February 2023. Dr. G.S. Khandekar, Professor, Mumbai Veterinary College, was the Chief Guest and Dr Sameer Borkar, Principal, State Level Training Centre, Department of Animal Husbandry, Pune, was the Guest of Honour. Dr. Khandekar distributed certificates to the participants and spoke on the importance of training on fracture fixation, and hoped that the trainees have improved their orthopaedic skill and knowledge. Dr. Borkar appreciated the efforts of TEC in regularly organising orthopaedic training for practicing vets. The trainees expressed their confidence to treat fracture cases and thanked TEC IVRI, Pune and Department of Animal Husbandry, Maharashtra State for providing an opportunity to learn advanced fracture fixation techniques. Dr. Sanghratna V. Bahire proposed vote of thanks and Dr. Amol Bhalerao compered the proceedings.



Welcoming of Guest of Honour Dr Shitalkumar Mukane, Additional Commissioner of AH



Address by Chief Guest Dr VD Aher, Associate Dean, COVS, Shirwal



Group photograph of trainees with the guests and faculty after the inaugural function



Demonstration of a fracture fixation technique to the participants of the training



Distribution of certificate to a participant by the Chief Guest



Group photograph after the valedictory function

CVE programme for LDOs and LSS

The Department of Surgery and Radiology and the Department of LPM conducted a two day CVE programme for LDOs and LSS from Raigad District of Maharashtra, in collaboration with BVCAA on 1 stand 2nd March 2023. Dr. G.S. Khandekar, Professor and Head, Department of VSR, was the Director of the Course while Dr. S. H. Dalvi, Dr. S. D. Tripathi, Dr. S. T. Hande, Dr. S.V. Gaikwad and Dr. J. G. Gudewar were the course coordinators of the CVE programme. A total of 25 Livestock Development Officers (LDOs) and 20 Livestock Supervisors (LSS) attended the training programme.



Dr. G. S. Khandekar, Professor and Head and Course Director of CVE programme addressing the LDOs from Thane District



CVE training of LDOs of Thane District

Refresher course for Veterinarians of UT of Ladakh

A seven days refresher course for three veterinarians from UT of Ladakh was conducted from 8th - 16th March 2023 as per the request of the Animal Husbandry department of union territory of Ladakh. Dr. G.S. Khandekar, Professor and Head, VSR, was the Course Director, while Dr. S.D. Tripathi and Dr. S.V. Gaikwad, Assistant Professor(s), VSR were the course coordinators for the said training programme.



Veterinary Officers from Ladakh for special 7 day refresher course along with Dr. G. S. Khandekar, Professor and Head, VSR and Dr. (Col.) Kulkarni, Secretary BSDPH



Dr. (Col) Kulkarni handing the participation certificate to Veterinary Officer from Ladakh

Dog Shows

The 252nd and 253rd Dog Show in collaboration with INKC during SPANDAN 2023 was held on 19th March 2023, with enthusiastic participation of more than 250 dogs of various breeds from areas in and around Mumbai City as well as a few from neighbouring states as well. Dr. G.S. Khandekar, Professor and Head, VSR was the Chief Organizing Secretary, while Dr. S.D. Tripathi and Dr. S.V. Gaikwad, Assistant Professor(s), VSR were the Organizing Secretaries.



Release of Dog Show booklet at the Hands of Hon'ble Mr. Rajeev D. Nivatkar (IAS), Prof. (Dr.) Sarita U. Gulavane, Associate Dean, MVC and Dr. G. S. Khandekar, Professor and Head, VSR



Participation of Pharma Industry in the Dog Show



Glimpses of Dog show

Hands on training programme for Human Surgeons on Minimally Invasive Techniques

The Department of Veterinary Surgery and Radiology, Mumbai Veterinary College, Mumbai conducted a one day Hands on training programme for human surgeons in collaboration with Medtronics India Limited on 23.04.2023. A total of Eight human surgeons participated in this training programme. Dr. G.S. Khandekar, Professor and Head, VSR was the course Director, Dr. S. V. Gaikwad and Dr. S.D. Tripathi were the coordinators.



Participants developing hand-eye coordination in dry lab



Participants undergoing training on cadaver in wet lab

Equine health and Gelding Camp Matheran

The Department of Veterinary Surgery and Radiology, Mumbai Veterinary College, Mumbai conducted a one-day free Equine Health and Gelding Camp at Matheran on 12.04.2023. A total of 28 horses were operated for gelding while 111 horses were examined for regular health check-up and lameness. The owners were counselled regarding the nutrition and hoof care during the camp. Dr. S.V. Gaikwad, Assistant Professor, Department of Surgery and Radiology was the Coordinator while Dr. G.S. Khandekar, Professor and Head, VSR and Dr. S.D. Tripathi, Assistant Professor, VSR were the Cocoordinators for this camp.



Inauguration of the equine gelding and health camp

Small Animal Flexible and Rigid Endoscopy

The Department of Veterinary Surgery and Radiology, Mumbai Veterinary College, Mumbai conducted a three-day training programme on "Small Animal Flexible and Rigid Endoscopy" in collaboration with MARS INDIA LTD from 17th - 19th April 2023. Dr. S.D. Tripathi, Assistant Professor, was the Course Director, while Dr. G.S. Khandekar, Professor and Head, VSR and Dr. S.V. Gaikwad, Assistant Professor, VSR were the Course Coordinators. A total of 18 Veterinarians from all over India including Chhattisgarh, Andhra Pradesh, Kerala, Uttar Pradesh and Haryana took part in this training.



Welcome of the Associate Dean, MVC during inauguration of the training programme by Dr. G.S. Khandekar, Prof. & Head, VSR



Live Demonstration of Lap OVE



Participants undergoing hands on training in flexible endoscopy



Participants undergoing hands on training in Dry lab Unit

Department of Veterinary Surgery & Radiology, College of Veterinary and Animal Sciences, KVASU, Pookode, Wayanad, organised hands-on trainings in eight bathces

Hands-on training in "Techniques in Small Animal Anaesthesia" was conducted by the Department of Veterinary Surgery and Radiology, College of Veterinary and Animal Sciences, Kerala Veterinary and Animal Sciences University, Pookode, Wayanad in eight batches during the period of 1st January, 2023 to 30th June 2023. A total of 33 veterinary practitioners across the country were trained in the latest concepts and techniques in balanced multimodal anaesthesia in small animals. This is a need-based training of three days' duration, conducted by the department under the auspices of the Directorate of Clinics and Directorate of Entrepreunership. To ensure real hands-on experience, the intake is currently limited to maximum six participants in a batch. A total of 81 veterinary practitioners across the country had undergone the training till June 2023. The training is offered as per the need and request of the veterinary practitioners across the country.



Mega Equine Clinical Camps: Mega equine clinical camps were held at Baltal, Sonamarg and Chandanwari, Pahalgam on 31.07.2023 & 02.08.2023, respectively for the ponnywals who are associated with the smooth passage of annual Shri Amarnathji Yatris. These camps were conducted as a part of SKUAST-Kashmir's outreach initiative under the leadership of Vice Chancellor SKUAST-K, Prof. Nazir Ahmad Ganai and under the guidance of Director Extension, Prof. Dil Mohammed Makhdoomi. Scientists from FVSc& AH, SKUAST-Kand Krishi Vigyan Kendras Anantnag and Ganderbal participated in these camps and provided treatment to the ailing animals. During the programme hundreds of ponies were examined and treated on spot in each of these clinical camps. Different cases that were presented during these camps included lameness, colic, injuries, weakness, hernia, saddle sore, corneal opacities, etc. Latest diagnostic facilities including ultrasonography were utilized for the efficient diagnosis of different ailments in the ponies. Free of cost medicine was distributed among the pony owners for the improvement of overall health of their animals.









Some glimpses from the mega equine clinical camps held at Baltal, Sonamare and Chandanwari, Anantane

Inspection of Bengaluru Turf Club and Hyderabad Race Club

Capt (Dr) Ravi Raidurg, Associate Professor and Head, Department of VSR, Veterinary College Shivamogga in his capacity as "Inspector BTC" (vide Rule 14 of The Performing Animals (Registration) Rules 2001) along with a team comprising of



Secretary and Asst Secretary AWBI inspected Bangalore Turf Club (BTC) on 10.04.2023 and 11.04.2023 with respect "to find out space availability and appropriate size stables available to house 506 no. of registered horses and registration of 245 new horses"



Capt (Dr) Ravi Raidurg (Inspector BTC) along with Asst Secy, AWBI (GoI) and officials of Bengaluru Turf Club (BTC) on 10.04.2023.



Capt (Dr) Ravi Raidurg (Inspector BTC) along with Secy, AWBI (GoI), Chairman, Stewards and officials of Bengaluru Turf Club BTC on 11.04.2023 in the Board Room

Hyderabad Race Club: Capt (Dr) Ravi Raidurg, Associate Professor and Head, Dept of VSR, Veterinary College Shivamogga as AWBI nominee along with a team comprising of Asst Secretary AWBI inspected Hyderabad Race Club (HRC) on 19.06.2023 and 20.06.2023 with respect to "check the number of horses sheltered in the premises, health care and upkeep of horses and also to check the horses at the time of training"



(Left to Right – Dr Dilip Kumar Das, Veterinary Officer., Dr K Venugopal Reddy, Chief Veterinary Officer, Capt. (Dr) Ravi Raidurg, AWBI Nominee., Ms. Prachi Jain, Assistant Secretary, AWBI., Dr Mamatha Badagowni, Member nominated from State Animal Welfare Board, Hyderabad., Mr Tariq Husain, Handicapper & Asst. Stipendary Steward, HRC



Continuing veterinary education programme to veterinarians sponsored by ISVS

Two days continuing veterinary education programme on "Improving surgical skills of field veterinarians to enhance health and productivity of dairy animals" sponsored by Indian Society for Veterinary Surgery was conducted at Kasurabha Goshala, Arsikere, Hassan district, Karnataka on 21st and 22nd April, 2023. Dr. Manjunath S.P, Vice president, ISVS was the Organizing Secretary of the programme. Eminent guest speakers Dr. S. Senthil Kumar, associate professor and head, Veterinary clinical complex, VCRI, Orathanadu, Thanjavuru, Tamilnadu, Dr. Basavaraj Balappanavar, Associate professor and head, Dept of Veterinary surgery and radiology, Hassan, Karnataka and Dr. Manjunatha D.R, Assistant professor, Dept of veterinary clinical complex, Veterinary college, Hassan, Karnataka delivered lectures on various topics demonstrated many useful surgical techniques to the participants. 4 field veterinarians namely Dr. Nikhith M.S, Dr. Vishwanatha B, Dr. Pramodh J.K and Dr. Manjunath S.P delivered lectures and demonstrated techniques to participants. 32 participants from different parts of southern Karnataka were attended the workshop. Among them 28 were field veterinarians and 4 were postgraduate students from Veterinary college, Hassan. Different anaesthetic techniques, surgical procedures, demonstrations were performed on clinical cases brought from surrounding villages.













Department of Veterinary Surgery and Radiology, Jabalpur organized two, ASCAD trainings for the felid veterinarian on "*Diagnostic and Imaging technique*" from 16 to 20 January and 27 to 3 March 2023.





Dr SP Tyagi, Professor and Head, delivered expert lectures on different aspects of Veterinary Ophthalmology in a CE programme organized by the Federation of Small Animal Practitioners Association of India (FSAPAI) which is the Indian representative of the World Small Animal Veterinary Association (WSAVA) on 18-19 February 2023 at Guwahati, Assam. Over 600 Indian and foreign delegates attended the event.



Dr. Adarsh Kumar, Professor, delivered expert lectures and conducted Hand's on training in three different CE programs on "Companion Animal Anaesthesia" (5th May 2023 at NOIDA) and "Small Animal Ultrasonography (19-20 June 2023 at Agra)"organized by Private Pet Practitioners of Uttar Pradesh (PPA, UP); and on "Small Animal Ultrasonography" organized by Awadh Private Pet Practitioners Association (APPA) of Uttar Pradesh on 18 June2023 at Lucknow, UP.



Dr. Adarsh Kumar with delegates in a CVE programme cum workshop at Lucknow, Uttar Pradesh

Dr. Suresh Kumar Jhirwal, Assistant Professor, Department of Veterinary Surgery and Radiology, CVAS, Bikaner was invited as a resource person to organise training program on "Anaesthetic, imaging & surgical management of Ophthalmic affections in animals" under RKVY project from 04.01.2023 to 06.01.2023 & from 07.01.2023 to 09.01.2023 at the Department of Veterinary Surgery and Radiology College of Veterinary Science and Animal Husbandry, OUAT, Bhubaneswar, Odisha for Veterinary doctors of F&ARD Department, Govt of Odisha and PG students of Veterinary Surgery. During this on request of Nanadan Kanan Biological Park authority. Dr. Jhirwal visited Nandan Kanan Biological Park and examined a cataractous Elephant on 06.01.2023 and advised them toget it operated at the earliest.



Practical examination of cataract in dogs during training



Ophthalmological examination of Elephant at Nadan Kanan Biological Park, Bhubaneshwar

Dr. S.K. Jhirwal delivered a lecture on "Equine Ophthalmology" for Veterinary Officers of Animal Husbandry Department of Rajasthan during a three days training programme organised by ICAR-NRCE, Equine Production Campus, Bikaner under RKVY project from 23-25 January, 2023 (F.No.ICAR-NRCE, EPC/RKVY Train.I/2023 dated 29.01.2023).





Dr. S.K. Jhirwal imparted Training on "*Ophthalmological procedures in small animals*" to the scientists of JAI RESEARCH FOUNDATION, VALVADA, VALSAD, Gujarat from 27-28 February, 2023. The training covered following topics (JRF/HR/2023/3 dated 06.02.2023):

- Lecture on anatomy and ophthalmological examination
- Slit lamp Biomicroscopy
- Fundoscopy Direct and Indirect Ophthalmoscope (Draize and Hackett-McDonald method)
- · Operation of fundus camera
- IOP measurement
- Administration procedure Subconjunctival, vitreous body and anterior chamber



Dr. S.K. Jhirwal visited Machia Biological Park, Jodhpur, Rajasthan on 23.02.2023 on the request of Dy. Forest Superintendent to examine the eyes of a male lion. The detailed examination report was submitted to the authority over there and advised to get the lion operated for cataract surgery at the earliest (No. F.4 (120)/PA/CVAS/2023/1371 dated 22.02.2023).



Dr. S.K. Jhirwal, as an Elected Member of Rajasthan State Veterinary Council (RSVC), was invited to attended WVD programme at Vigyan Bhawan organised by VCI on 29.04.2023 (No. F.4 /Estt/CVAS/2023/1183dated 24.04.2023)





Dr. S.K. Jhirwal delivered an invited lecture on "Management of blind cattle in gaushala and mitigation of ocular pain" during National Conference on Gau-Vigyan in modern life and medical science (NCGV-2023) held on 20-21, May 2023 at the Centre for Indian Knowledge Systems, Indian Institute of Technology Guwahati in association with BharatiyaGovansh Rakshan Samvardhan Parishad (BGRSP) (No. F.4 ()/Estt/CVAS/2023/1209 dated 09.05.2023).





Dr. S.K. Jhirwal was invited by Placement Cell, College of Veterinary and Animal Science, Guwahati, Assam to delivered a lecture on "Prospects of Veterinary Ophthalmology with reference to cataract surgery" on 20.05.2023.







Dr. S.K. Jhirwal was invited at the College of Veterinary Sciences, Rajendranagar, Hyderabad for guest lectures on "Lens Implantation Application of Phaco machine in canine surgical cases" and training of faculty, PG and PhD students in the area of Veterinary Ophthalmology from 7-9 May, 2023 (Lr. No.1023/CVSc., R'nagar/2023 dated 03.06.2023).



Department of Veterinary Surgery and Radiology, PGIVAS, Akola organized a National Online Clinical Case Conference – 2023

The Post Graduate Institute of Veterinary and Animal Sciences, Akola, a constituent college of MAFSU, Nagpur organized sixth Online National Clinical Case Conference on "Technological Advancements in Veterinary Diagnostics and Therapeutics: New Frontiers in Animal Care" from 25th to 27th April 2023. The event was organized under the Patronage of Prof. Dr. Sharad Gadakh, Vice Chancellor of MAFSU, Nagpur The Conference was inaugurated by Prof. N.H. Kelawala, Vice Chancellor, Kamdhenu University, Gandhinagar, Gujarat in the presence of Prof. Dr. S.V. Upadhye, Director of Instructions and Dean, Faculty of VeterinaryScience, MAFSU

Nagpur, Prof. Dr. N.V. Kurkure, Director Research. Prof. Dr. Dhananiay Dighe, Associate Dean, PGIVAS, Akola presided over the inaugural function. The e-Compendium of Conference was released by the Chief Guest during inaugural program. Dr. Dhananjay Dighe, Associate Dean, PGIVAS, Akola and Chairman of the organizing committee welcomed all the participating students, faculty members, research scholars, professionals and addressed the significance of theme of conference. The organizing secretary, Dr. Ratnakar Raulkar explained outline of programme, details of presentation competition scheduled during various sessions of conference. Alembic Pharmaceuticals Ltd. was a knowledge partner and provided the online platform for the said event. The three-days conference was consisting of Technical Sessions on Veterinary Clinical Medicine, Veterinary Surgery and Radiology, Animal Reproduction, Gynaecology and Obstetrics and Veterinary Para-clinical and Diagnostics, wherein 286 students across the nation participated in the online conference. The Lead speakers were Dr. S.V. Upadhye, Director of Instructions and Dean (Vet. Science) MAFSU, Nagpur; Dr. Samad, Former Dean Faculty of Veterinary Science, MAFSU, Nagpur; Dr. Narsimha Murthy, Assistant Professor Deptt. Of Veterinary Clinical complex, Veterinary College Gadag, Karnataka and Dr. Naresh Kumar Sood, Adjunct Professor, Depertment of Veterinary Pathology Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana Punjab. They delivered talks on various topics during their respective sessions and enlightened knowledge of participants.

The presentation competition held online was evaluated by various eminent scientists from across the country. For veterinary clinical medicine Dr. D.S. Meena, Dr. Mukesh Srivastava, U.P. and Dr. S.V. Mavadiya, Gujarat; for veterinary surgery session, Dr. S. Kathirvel, Tamil Nadu, Capt. Dr. Ravi Raidurg, Karnataka and Dr. Sakar Palecha, Rajasthan; for ARGO session Dr. M.K. Tandale, Karnataka, Dr. G.K. Mishra, M.P. and Dr. Jayakumar, Kerala and for veterinary. para clinical session, Dr. N. Pazhanivel, Chennai, Dr. A.K. Jayraw, M.P. and Dr. Rajat Varshney, Mirzapur acted as Jury members. Dr.M. G. Thorat, Professor and Head Deptt. of Veterinary Surgery and Radiology presented the report of the conference. A total 287 participants across the country participated in the conference. One hundred six undergraduate and one hundred thirt six postgraduate students presented their clinical case papers through online platform. Dr. Mahesh Ingawale, Co-organizing Secretary announced the results of the competition and congratulated the winner students on behalf of the organizing committee. Winning students were awarded with Medals and certificates. During concluding session, Dr. Ratnakar Raulkar, Organizing Secretary expressed his gratitude by paying a vote of thanks towards all the Patrons, Chief Guests, Lead Speakers, Jury members, Participants and Sponsors & Media persons. Prof. Dr. Chaitanya Pawshe, Dr. Milind Thorat, Dr. Deshmukh, Dr. Kamdi, Dr. Pajai, Dr. Hajare, Dr. Badukale and Dr. Panchbhai, Dr. Deshpande and Dr. Wade also helped for successful organization of the event.

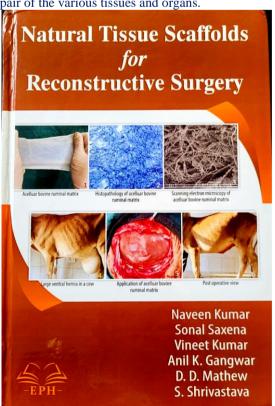


PUBLICATIONS

Dr Naveen Kumar, Sonal Saxena, Vineet Kumar, Anil Kumar Gangwar, Dayamon D. Mathew and Sameer Shrivastav published a book entitled "Natural Tissue Scaffolds for Reconstructive Surgery." This book is a set of decellularization protocols from different animal species. The book contains a comprehensive reference and

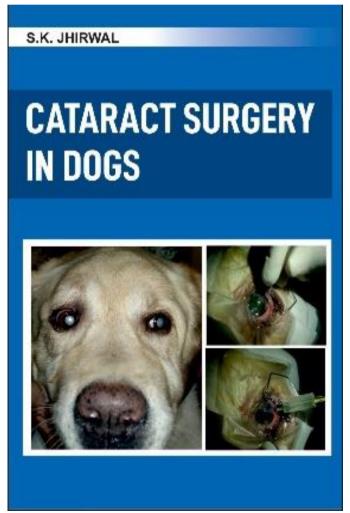


teaching aid on decellularization of natural biomaterials derived from abattoir waste. The protocols for decellularization of different tissues from various animal species have been described in detail. The decellularization protocols included in this book are used routinely in the authors' laboratories to remove native cells from the animal tissues using unique combinations of chemicals and reagents. We have used these decellularized scaffolds in preclinical and clinical settings without considerable adverse effects.Our team conducted detailed study on development of protocols for decllularization of different tissues like skin, diaphragm, urinary bladder, gall bladder, bone, cartilage, tendon, rumen, reticulum, omasum, abomasums, small intestine etc. of caprine, ovine, bovine, bubaline, swine and fish origin. The developed scaffolds have been used extensively for reconstruction of hernia in clinical cases of small and large animals. The book"Natural Tissue Scaffolds for Reconstructive Surgery" provides a platform for the advancement of research and technologies for the formation of new viable tissues/organs for a medical purpose. This interdisciplinary field may be able to help with the shortage of life-saving organs available through donation for transplantation in the near future. It can also help with the limited donor availability and rejection of the grafts by the immune system. An outstanding group of contributors has thoughtfully and skillfully provided current knowledge in this exciting area and took a long time to prepare the different chapters of this book in a better way. This viii book would be of value to clinicians and researchers interested in regeneration and repair of the various tissues and organs.



A book authored by **Dr. S.K. Jhirwal**, Asstt. Professor, Department of Veterinary Surgery and Radiology, CVAS, Bikaner, on "**CATARACT SURGERY IN DOGS**" was released on auspicious occasion of 14th foundation day of RAJUVAS by Hon'ble Vice Chancellor, RAJUVAS and other dignitaries on dias. Link of the book: https://www.nipabooks.com/.../cataract-surgery-in-dogs





This book contains various chapters viz: Introduction, anatomy of lens, definition of cataract, incidences of cataract, causes of cataract, pathogenesis of cataract, classification of cataract, diagnosis of cataract, selection of patient for cataract surgery, surgical management of cataract, complications of cataract. Each chapter provides a brief and practical knowledge in easily understandable text. The colour photographs of procedures and instruments certainly aid practitioners in diagnosis and surgical management of cataract.

APPOINTMENTS/ASSIGNMENTS/PROMOTIONS

Dr. Indramani Nath, Professor and Head, Department of Veterinary Surgery and Radiology, joined as Project Coordinator for Centre of Wildlife health C.V.Sc. & A.H., OUAT, Bhubaneswar on 28,02,2023.



Prof. (Dr.) A.K. Gangwar joined as Director, Agricultural Experiment Station (DAES), of Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya on dated 02-06-2023.



Dr. Md. Asgar Quereshi ,VAS, Goteganv, promoted as Deputy Director, Veterinary Services, District Narsinghpur.



Dr. Asha Baderiya joined as Teaching Associate on 12th May, 2023 in Animal Husbandry Diploma College Bhopal.



Dr. Somi Ali joined as Teaching Associate on 10th February, 2023 in Animal Husbandry Diploma College, Mhow.



Dr. Mandakini Sahoo joined as Assistant Professor in Department of Veterinary Surgery and Radiology, College of veterinary Science and Animal Husbandry, OUAT, Bhubaneswar on 30.06.2023



Prof (Dr.) Md Moin Ansari, joined as University Professor and Head. Department of Veterinary Surgery and Radiology, Bihar Veterinary College Campus, Bihar Animal Sciences University, Patna-800 014 (Bihar) on 26th June' 2023. He is also acting as Nodal officer Aryabhata Knowledge University, Patna, Bihar.



RETIREMENT

Dr Naveen Kumar superannuated as *Principal Scientist* from the Division of Surgery, ICAR-Indian Veterinary Research Institute, Izatnagar, Uttar Pradesh on February 28, 2023. He received his BVSc & AH degree and MVSc degree in Veterinary Surgery and



Radiology with First Class in year 1984 and 1986, respectively from College of Veterinary Sciences and Animal Husbandry, Bikaner, Rajasthan,. After completion his post-graduation, he joined as Veterinary Assistant Surgeon in Rajasthan State through Rajasthan Public Service Commission in 1986. Later on, he was selected in Agricultural Research Services (ARS) in ICAR and joined at Indian Veterinary Research Institute as Scientist in year 1989 and subsequently he became Principal Scientist in 2006. He obtained his PhD degree from Deemed to be University, ICAR-IVRI, Izatnagar, Uttar Pradesh.

Dr Naveen Kumar while working in ICAR-IVRI is associated with more than twelve extramural funded projects and ten institute projects. He has been instrumental for procuring 150 lakhs from Department of Biotechnology for the development of facilities for Biomaterials and Bioengineering Research at ICAR-IVRI. He has published more than 300 research/clinical papers on Biomaterials, Bioengineering and Veterinary Sciences especially in Veterinary Surgery and Radiology in National and International Journals of repute. As per scientific achievements by Google Scholar his research paper citation is 5837, h-index 26 and i10-index 142. He guided 7 PhD and 11 MVSc students and acted as co-advisor of more than 60 students. He has published twenty books and manuals and contributed more than 40 chapters in compendiums and books. To his credit he has contributed 8 chapters to books published by international publishers.

He received several awards which included Fellow award from National Academy of Veterinary Sciences, Fellow award from Society for Biomaterials and Artificial Organs-India, Gangman Sharma Award, Smt. Ramani Ramchandran Award and Best paper presentation award in various conferences. He has been invited speaker in various international conferences held at Kathmandu (Nepal), Chengdu (China), Hong Kong and Singapore. He is invited speaker in more than 30 conferences and presented lead papers on biomaterials and tissue engineering. He is Editorial Board member of three International Journals. He is Expert member for recruitment of faculty members and career advancement in various university of India. He was an Expert member in DBT task force for evaluation of new project proposal submitted to department of Biotechnology, Government of India. He is a life member of several professional societies, including the Indian Society for Veterinary Surgery, Indian Society for Veterinary Medicine, Indian Science Congress Association, Indian Carbon Society, Association of Indian Zoo and Wildlife, Indian Society for Advancement of Canine Practice, Society for Biomaterials & Artificial Organs-India and Society for Tissue Engineering and Regenerative Medicine. After superannuation from ICAR-IVRI, he joined as Professor and Head, Veterinary Clinical Complex, Apollo College of Veterinary Medicine, Jaipur, Rajasthan.

Technical views expressed is the sole responsibility of author(s).

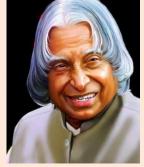








"Winners are not those who never fail but those who never quit"



Dr. APJ Abdul Kalam