Major Research Achievements

- Diaphragmatic herniorrhaphy (DH) technique in buffaloes through trans-thoracic and trans-abdominal approaches was advocated for the first time in clinical cases from this department.
- Assessment of safety and efficacy of various preanaesthtics and anaesthetics (injectables and inhalants) in different species of animals and suitable recommendations were made for clinical use.
- The survival rate after diaphragmatic herniorrhaphy in buffaloes is more than 90%. by using balanced anaesthetic combinations.
- Studies on upward fixation of patella and arthritis in large animals
- Standardization and clinical application of internal and external fixation techniques for repair of fractures in large and small animals
- Significant studies were conducted on osteomylitis with special reference to kinetics of some antibiotics in bovines.
- Studies on urolithiasis and pathophysiology of uremia in cattle and buffaloes
- Evaluation of some analgesics combinations in orthopaedic cases
- Attention has also been focussed on better pre and post operative management of surgical cases, fluid therapy, functional stomach disorders in buffaloes, efficacy of antioxidant therapy in buffaloes suffering from traumatic reticuloperitonitis and diaphragmatic hernia.
- Radiography in large animals was started for the first time in India for diagnosis of different clinical conditions and contrast radiography techniques like osteomedullography, barium meal studies, myelography, sialography, intravenous pyelography, cystography and arthrography were also standardised for use in small and large animals.
- Ultrasonographic findings of different organs of small and large animal have been documented during developmental stages and in clinical cases.
- Comparative study on ultrasonographic, radiological and surgical findings of diaphragmatic hernia, reticular abscess and traumatic reticuloperitonitis in buffaloes.
- Significant studies were conducted on halothane, isoflurane and sevoflurane as maintenance agent with different balanced anesthetic combinations for buffalo undergoing diaphragmatic herniorrhaphy.
- Management of periodontal diseases with ultrasonic dental scalar

- Studies on effect of vincristine sulphate and doxorubicin on upper GIT has been carried out by endoscopy.
- Studies on diagnosis and management of oral tumours in bovines
- Assessment of Polymethylmethacrylate (PMMA) in combination with intra-medullary threaded pinning in long bone fracture fixation in canines has been studied
- Study on cardiac functions through cardiac biomarkers, thoracic radiography and echocardiography in dogs
- Comparative studies on stress response to laparoscopic ovariectomy and open ovariectomy in dogs has been studied
- Paste of Calendula officinalis with Cucuma longa in glycerin base was found to be safe, suitable and cost effective, which promoted wound healing specially in treatment of large open wounds in animals
- Paste of Calendula officinalis with Cucuma longa in aloe vera base was found to be safe, suitable, produces minimal patient discomfort and cost effective which promoted wound healing specially in treatment of large open wound in animals
- Silver coated foley's catheter was found to be more effective in reducing post-operative complications like adhesion formation, muscle fibrosis, minimizing the postoperative urinary infection, reducing chances of catheter blockage, facilitating free drainage of urine there by normalizing BUN and creatinine levels as compared to latex foley's catheter for treatment of obstructive urolithiasis in buffalo calves
- Walpole's solution along with ammonium chloride was found to be more effective followed by Walpole's solution and ammonium chloride for the treatment of obstructive urolithiasis in male buffalo calves
- Butorphanol has the highest dose sparing effect (41.24%) on isoflurane followed by pentazocine (37.47%) and meloxicam (31.47%) in buffaloes undergoing diaphragmatic herniorraphy anaesthetized by atropine-xylazine-propofol combination
- Magnesium based (Mg-3Zn alloy) intramedullary pins can be used in treatment of long bone fractures with good efficacy however breakage and/or bending of the pin might be encountered in a significant number of cases
- Shortwave diathermy was found to be more effective as compared to therapeutic ultrasound in management of posterior paresis in dogs