A taste of research

Research plays a pivotal role in veterinary and human medicine, but is often overlooked as a career option. Dick Vet undergraduate Hannah Johnson undertook a summer research project to get a better idea of what is involved.

The ‘Dick’ Vet’s Research Track Committee organises research projects for veterinary students within the University of Edinburgh and its sister school, Colorado State University (CSU). One of the benefits of the schools’ union in 2008 was to create funded student exchanges, offering the opportunity to carry out research projects and clinical rotations.

I was offered the opportunity to learn more about opportunities in research at CSU, and spent eight weeks in a field I was keen to explore – clinical research in livestock – at its small ruminant comparative orthopedic lab (SRCOL). I had not previously considered the role of livestock as animal models. Sheep are excellent models for human orthopaedics, and medical companies around the world rely on the lab to trial cutting-edge therapies for human orthopaedic conditions.

Carrying out my project there provided a great opportunity to prepare for a career in research, but also combined aspects of practical clinical medicine and surgery.

SRCOL is led by Dr A. Simon Turner, a recent recipient of an AVMA award for research excellence. It is through his innovation and charisma that this advancement in clinical trial methods has been possible. He is supported by an enthusiastic and accomplished team of veterinary surgeons, technicians, an anaesthetist and a host of eager-to-learn pre-veterinary and veterinary students. To join this team was an honour and an extraordinary experience.

The day-to-day activities I was involved in ranged from postmortem examinations, CT scanning and radiography, blood sampling, assisting in surgery and anaesthesia, to general sheep husbandry. The team was incredibly efficient, which gave me ample opportunity to discover the basis behind the techniques being trialled.

I selected one ongoing project in order to learn how the lab was managed, and the extent of research required for a product to reach clinical trials.

The project I found most fascinating was based on groundbreaking research looking at a new treatment for degenerative diseases of the lower back. Degenerative disc disease and spondylolisthesis of the lumbar spine are associated with chronic pain in a large number of people.

The current ‘gold standard’ treatment is to carry out lumbar spinal arthrodesis with the use of autograft tissue; however, significant morbidity is associated with its harvest. Allograft has also been used, but with less success, as incomplete spinal fusion and resultant morbidity is more common. The most recent development has been the use of the growth factor bone morphogenetic protein 2 (BMP-2) to assist fusion.
Ten-minute chat

John Bower, a former BVA President, was presented with his MBE for services to the BVA Animal Welfare Foundation on April 13, having been a trustee for 15 years. He retired from practice in 2007. He has also written a number of veterinary books for pet owners.

How did you get to where you are today?
I graduated from Liverpool University in 1965, only three months late (along with one-third of our year!). It was a great time to be living and studying in Liverpool. Lots of good groups (like the Beatles) played at our union and in the Cavendish. Then, one afternoon, our biology master sprang on us that we had to apply for university! I had given no thought – mainly due to sporting and field trips – to a fellow student, Pat DeVille, said ‘Why don’t you apply to become a vet like me?’

What made you become a vet?
Although my best subjects at O level were French, maths and Latin, I was unable to resist the biology field trips promised in the sixth form and opted for biology, chemistry and physics at A level. My prediction was that I would be a vet! Then, one afternoon, our biology master sprung on us that we had to apply for university! I had given no thought – mainly due to sporting and field trips – to a fellow student, Pat DeVille, said ‘Why don’t you apply to become a vet like me?’

How did you get involved in veterinary politics?
In the early 1970s, Tony Bradley and Roger Green asked if I would join the BSAVA congress committee. ‘It will only take four days a year,’ they said. I ended up running the trade exhibition, chairing the congress committee, and then becoming BSAVA president. Soon afterwards, I was asked to become BVA President, and I am grateful for the support of my wife Boony and my practice partners for accepting the time this would take. By then, association tasks could take four days a week.

How did you spend a typical day in the practice?
In the early days, surgery was my great love, but my involvement in the BSAVA and the BVA meant I was leaving the operating theatre to answer phone calls. That wasn’t going to work, so the last 20 years of my practice life were spent in the consulting room – and I loved it.

What did you like about your job?
I enjoyed the communication with the owners and examining animals all day.

What did you not like?
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What advice would you give to someone considering a similar career?
Accept that in the early days after graduation, there may be long days, nights and weekends to work. And the income, even if not on a par with other professions, is enough to lead a good standard of life. Get involved with the profession after a few years – it’s much better if working vets are those dealing with government, universities and other interested groups.

What’s the best piece of advice you were ever given?
Jack Hoare, from our year at uni, advised me to look at and buy a ‘great little practice in Plymouth’.

Ovine models are used to determine the effectiveness of recombinant human platelet-derived growth factor, and it is hoped that it may become the new ‘gold standard’ method of treatment, decreasing the level of morbidity associated with surgery.

In my spare time, I had the opportunity to join the final-year students on their rotations in various departments, which gently eased me into a clinical mindset, in preparation for my clinical training at Edinburgh. I was met with a high input of fascinating and complicated cases: fitting prosthetic distal limbs to a frostbitten calf, acupuncture on a rodeo bull and witnessing radiotherapy on a wolf were some of the more memorable cases.

Overall, my time at CSU has allowed me to appreciate that research is practical and clinically relevant, with the additional benefit of advancing veterinary and medical knowledge.

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