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Synthetic grafts are now also being used in canine patients.

The most intensive research in this field at the moment

is the use of cell-based and tissue engineering strategies for joint cartilage production. In essence, this means making cartilage in the laboratory that can be used to replace damaged cartilage. It's still early days on this one. Researchers have grown the cartilage, but not surfaces large enough to be useful in a patient with severe osteoarthritis.

An area in which where there is likely to be huge growth in the veterinary field is interventional radiology. Interventional radiology (IR) is the use of image guidance (eg. x-ray, ultrasound, CT, MRI) to diagnose and treat diseases in the least invasive way possible.

IR has been around in the human field for some years, (think the use of stents to open up a blocked coronary artery in a person having a heart attack). There have been big advances in the last few years, and some large veterinary institutions in North America are now performing a wide range of procedures in dogs and cats.

Some of these procedures would previously have required major surgery to perform. What's more, IR has opened up a whole new approach to treating some diseases in a way that would never have been possible before.

One application IR is increasingly being used for is in treating certain tumours. It is used to selectively deliver anti-cancer drugs straight to the tumour through its direct blood supply. The blood supply is then blocked, effectively trapping the anti-cancer drug in the tumour for longer, increasing the chance of killing off cancer cells. This has the added benefit of sparing the rest of the body from the potentially toxic effect of these drugs.

Although these treatments are currently confined to very large veterinary institutions, with time, they will become more available and routine for certain procedures. (Incidentally, the Interventional Radiology unit in New York City, from whence the guest speaker hailed, came at a cost of \$3.5 million. The entire amount was donated by a wealthy married couple).



— WSAVA 2012 —

I've just returned from the 2012 World Small Animal Veterinary Association Congress in Birmingham, England. Attending veterinary conferences is part of our commitment as veterinarians to continuing education.

I thought this issue's column would be a great opportunity to share with you some of the new developments and technologies occurring in the veterinary profession.

While not strictly related to care of our patients, a real highlight was the keynote address given by Lord Robert Winston, the renowned English professor, medical doctor, scientist, television presenter and politician.

He spoke on many topics, including animal welfare, lasers, our environment, and his medical work in the field of reproduction and fertility. It was gratifying to hear him acknowledge the contribution the veterinary profession has made not just to his fields of research, but medical research in general.

Some of the exciting topics covered included new fracture repair techniques, open heart surgery, stem cell therapy and tissue engineering, and interventional radiology.

Osteoarthritis is one of the most common diseases we deal with in companion animals. A key part of this pathology is loss of normal joint cartilage. Our current strategies for dealing with it include anti-inflammatories, chondroprotective products, and in severe cases joint replacements.

Several new techniques take a different approach to managing severe osteoarthritis. Cartilage grafts have now been performed, both in an experimental setting and in client owned pets. Although only small numbers have been performed, the early results have been very encouraging. In these cases, the grafts were from dogs that had been euthanased for unrelated conditions.