VALUE OF WET LABS/VIDEO
Dramatic changes over 20 years but more discussion at meetings is vital

by Priscilla Lynch in Southport

The development of wet labs and surgical video have been two of the most important advancements in ophthalmology surgical training in the last 20 years, the XXXV United Kingdom & Ireland Society of Cataract & Refractive Surgeons (UKISCRS) Congress heard.

Clive Peckar FRCS, FRCOphth, consultant in private practice in Cheshire, UK, outlined the emergence and vital role of video and wet labs in ophthalmology during this year’s Pearce Medal Lecture.

Dr Peckar designed and established the Warrington Microsurgical Teaching Centre and is renowned for his passion in promoting the importance of wet labs was clearly evident as he showed many useful and contextual video clips from the early days of surgical video recording up to the present.

Looking back at the introduction of IOLs in the UK in the early 1980s, Dr Peckar said UKISCRS discussions on new techniques were invaluable, but there were no videos of complications shown at that stage and questions arose as to whether this should change.

The routine recording of all microsurgical procedures took place by 1984 in Warrington, which Dr Peckar said enabled detailed analysis of technique, complications and unusual occurrences. One such new technique where video proved very useful in the 1980s was YAG laser capsulotomy.

It also became apparent in the mid-1980s that video was very useful, and far superior to photographs, for endothelial visualisation and quantification. The technique Endovid (Endothelial Specular Microscopy & Quantification Using Video) was subsequently developed, and then enhanced with a “zoom” version, which enabled the scanning of large areas of endothelium for focal pathology eg. Nd:YAG damage (using posterior corneal rings).

Endothelial specular microscopy has since become a routine part of screening in Warrington, explained Dr Peckar. It helps identify any specific risk to the cornea thus ensuring the patient can give fully informed consent.

It also prevents the surgeon having a “post-op corneal decompensation surprise” he elaborated. Furthermore, in those cases with compromised endothelium, surgeons can consider if surgery is necessary at that particular time.

Widespread acceptance
In 1988, a UKISCRS symposium on current techniques in IOL surgery saw the introduction of video recorded surgical techniques and complications, which then became a regular feature of UKISCRS meetings.

“This was a watershed, as at this meeting we had intracapsular cataract extraction, extracapsular cataract extraction which was the norm at the time, and the beginning of phaco,” Dr Peckar commented.

Showing the audience a clip from the 1988 meeting, he said the video was important as many would not have seen it and realised the progress and potential of video and the importance of discussion sessions, especially on the management of certain conditions.

Maintaining his preference for videoing every surgery, Dr Pecker reiterated that good quality video allows self-learning and teaching, and is vital for learning to deal with complications and the unusual.

“If a complication develops, by studying the video you can, in virtually every case, see the cause of the problem, and that these ‘acts of God’ are not actual ‘acts of God’ at all, but acts of the surgeon,” he added.

The birth of wet labs
Moving on to the development of wet labs and using porcine eyes in the UK, Dr Peckar said by the early 1990s it was universally agreed that the use of the labs provided the best method for trainee surgeons to safely simulate practice on patients.

While the need for regional/national wet lab training in the UK was recognised, no permanent trade-independent facilities existed and there was no funding for setting up surgical simulation laboratories in ophthalmology.

The cost of setting up a nine-station phaco wet lab at that time with new equipment was around £700,000, although with donated equipment the cost was less.

It was eventually agreed to set up the UK’s first fully equipped, permanent multi-station wet lab in Warrington. Following Dr Peckar’s efforts the Warrington Microsurgical Teaching Centre was opened in 1996.

Many new ophthalmological techniques have now been trialled through the lab, including viscosocanalostomy in 1997. Following training with a wet lab, theoretical videos of previous surgical cases, and live surgery from an expert in the surgery, Dr Peckar carried out his first viscosocanalostomy procedure.

He told delegates that the experience totally convinced him of the value of combining live surgery, from an experienced surgeon, with theoretical videos and wet lab practice. He added that new surgical techniques are now becoming available in Schlemm’s canal surgery.

“I’m confident after 14 years’ experience that Schlemm’s canal surgery will continue to develop. You should consider adding it to your armamentarium for open-angle glaucoma.”

“I’m confident after 14 years’ experience that Schlemm’s canal surgery will continue to develop. You should consider adding it to your armamentarium for open-angle glaucoma,” Dr Peckar recommended.

Looking at the future of wet labs, he said while virtual reality simulators may help to develop many of the skills surgeons require, they do not impart the same “feel” as real instruments on real tissue.

Concluding, Dr Peckar said a key role of UKISCRS, which he joined 30 years ago, is to stimulate debate and that it must continue to do so.

“We need more people to contribute their experience for discussion. The discussion sections [of meetings] on the management of certain conditions are vital, which is why I showed the discussion session from 1988. Those were really small meetings but had really intense discussion and I think UKISCRS’s role is to stimulate discussion, particularly for young surgeons and developing techniques,” he told EuroTimes.