VITREORETINAL surgeons now have many techniques available to help reduce the risk of primary failure of retinal detachment surgery, which in turn can help reduce the rate of proliferative vitreoretinopathy, according to Stanley Chang MD, Edward S Harkness Professor and Chairman of Ophthalmology at Columbia University, New York.

Dr Chang received the 2005 Kreissig Award at the recent 5th EURETINA Congress. In a lecture following the award, he described PVR as a disease for which the selection of treatment options is often based on the severity and location of the PVR and retinal break or breaks.

He noted that scleral buckling alone could often be successful if the surface membranes involved do not prevent closure of retinal breaks. However, pars plana vitrectomy with the removal of membranes mechanically is the main treatment option when the retina immobile and too stiff to smooth on a scleral buckle.

In summarising the cases Dr. Chang told the audience “each case demonstrates that features of retinal detachment may not prevent the development of PVR. However, by choosing the appropriate approach with careful surgical techniques to reattach the retina reduces the risk of primary failure and the subsequent development of PVR. What’s important is to find all the retinal breaks and support them with the scleral buckle”.

Dr Chang addressed the issue of recurrent PVR in which it was acknowledged that we have probably reached the limits of mechanical intervention and that it may be prudent to look for new approaches on the pharmacological frontier. An example of one such agent under current development involved the use of molecular genetic constructs to interrupt the course of cell division in the specific cells involved in PVR.

In general, he also participated in developing a panoramic viewing system to aid visualization during vitreoretinal surgery.

Dr Chang was the first to use perfluoropropane gas in the management of retinal detachment made worse by scar tissue proliferation and has made a major contribution to the development of perfluorocarbon liquids for vitreoretinal surgery.