A simple yet highly effective technique can be employed by surgeons to rescue most cases of capsulorhexis tear-out even when the tear has gone out into the zonules, according to Brian Little MD. “This is a subject very close to my heart. In constructing the capsulorhexis, it is essential to control the course of the capsule tear. This technique has probably saved me from more trouble than anything else and it is really very simple once you understand how to do it and it really does work,” Dr Little told delegates attending the joint meeting of the European Society of Ophthalmology (SOE) and the American Academy of Ophthalmology (AAO).

Defining a capsulorhexis tear-out as a tear that begins moving peripherally or in a radial fashion, Dr Little, Moorfields Eye Hospital NHS Trust, in London, England, said that it could happen to the most experienced surgeon. “Most of us like to think of a tear-out as a spontaneous event which we have no responsibility for and which just happens, but the reality is that it happens for reasons related to vector forces. The critical point is to recognise when it is happening and to stop immediately when the tear starts to move in a radial or peripheral fashion,” he said.

Dr Little said that surgeons should be particularly attentive when performing capsulorhexis on larger pupils. “We should be particularly careful with larger pupils, because in my experience this is the commonest risk factor of a tear-out. We are magnetically drawn to the pupil margin once we start the capsulorhexis. The discipline required to produce a rhexis of the correct size in a well dilated pupil is enormous because if the rhexis is correctly sized it will be between 4.0mm and 5.00mm and it looks very small on a large pupil,” he said.

Once progression of the tear has been stopped, an ophthalmic viscosurgical device (OVD) should be added to the eye if required in order to maximise the anterior chamber depth and flatten the anterior lens surface, said Dr Little. Steps can then be taken to salvage the situation and retrieve the capsulorhexis.

To rescue the capsulorhexis, the tear must be re-directed centrally and back to the desired circumferential path, explained Dr Little. “The best and most efficient way of achieving this is to unfold the anterior capsule flap and lay it flat against the lens cortex. Using forceps, the trick is then to hold the flap near the root of the tear and pull it back circumferentially in the direction from where it came, applying the force in the plane of the capsule, to put it under tension,” he said.

If necessary, a second corneal paracentesis incision can be made at the position that allows the optimum angle of approach for applying traction, said Dr Little, adding that a needle cystotome is not recommended for this manoeuvre due to the risk of tearing the capsule with the needle. “Don’t be afraid to make another incision. You can’t do this manoeuvre with a needle – you have to do it with forceps as only forceps enable you to have fine control over the direction of the tear. Grab it as near to the root of the tear as possible and pull it backwards and then centrally and you will have retrieved the situation. Technically this is not difficult, you simply have to recognise when it is happening and have the discipline to stop early and perform the retrieval,” he said.

Contact Brian Little - eye.surgeon@mac.com