

Through an Ocularist's Eye

There is more to ocular prostheses than meets the eye. We delve into the mysterious world of artificial eyeballs. ■ **Paul Geelen and Jenny Geelen**

Enter the mystical world of the ocularist!

An ocularist is a person who individually hand crafts eye prostheses for people who have lost an eye through trauma or disease. While ocularists work closely with ophthalmologists and other health professionals, they generally work outside the hospital system. Being a specialised profession little is known about the work they do.

Artificial eyes were originally manufactured in Germany from glass and distributed throughout the world as stock eyes. During WW2 the glass eyes were not available. An American dental technician developed the techniques for crafting an eye prosthesis using dental grade PMMA acrylics. The acrylic eyes proved superior to glass as it could be moulded to the shape of the eye socket and adjusted for fit. The glass prostheses were hand blown to an

approximate shape. They were also fragile and prone to implosion in the eye socket.

Ocular prosthetics was originally part of the dental mechanics training and was done in conjunction with dentistry. There were ocularists working in Australia from the early 1950's. The early pioneers specialised in ocular prosthetics so that the artificial eyes were no longer a part of the dental technicians training and became a profession in its own right.

In recent years the leading ocularists in Australia established the Ocularists Association of Australia. The Association was formed to define and promote standards of service of its members and to promote a forum for the exchange of information and reporting of recent developments.

In preparation for the inevitable regulation of the industry the Association has

prepared the Standard Operating Procedures for ocularists working in Australia. They meet twice a year and have developed a code of ethics and a mission statement. Membership is by invitation and based on specific eligibility criteria. The Association's website has a list of member ocularists in Australia. By clicking on a map on the site, patients can locate an ocularist in their state.

Siblings Paul and Jenny Geelen are ocularists in Western Australia. Paul explains "The role of an ocularist is twofold. Firstly, they craft a prosthesis to create the illusion of an eye. This is done so that people are not defined by their eye loss. A prosthesis that is correctly crafted should be indistinguishable to the untrained eye. Secondly, the ocularist provides information and support following eye loss. While the prosthesis can disguise the eye loss from other people, there is a grieving process that can take years to heal".

Paul and Jenny encourage people to visit their clinic prior to surgery. In this introductory appointment they explain the upcoming operation and answer any



questions. By providing a comprehensive understanding of the forthcoming procedures it helps a person to overcome many of the fears associated with eye loss.

In many countries, eyes are still made en masse from poor quality plastics, which cause problems in the eye socket. In Australia, they are handcrafted for each individual. An eye prosthesis is crafted in several stages.

In the first appointment an impression of the socket is taken, and an iris painted. From the impression a clear plastic shell is made and adjusted so that the eyelids sit naturally over the prosthesis. The iris is inserted into the shell to find the right alignment. After making any adjustments, the eye is hand-painted in the presence of the patient to allow for precise matching of eye colour. Finally the eye is polished and fitted. When someone looks in the mirror for the first time it can be quite overwhelming. We all have a preconceived idea of how we appear to the world and when this is changed in such a personal and dramatic way, we suddenly need to reinvent our self-image. The Geelen clinic brings the client back after a couple of days so they have an opportunity to scrutinise the prosthesis in the comfort of their own home. The beauty of working with acrylics is that the eye prosthesis can be adjusted by cutting it back or building it up. It can also be cut back to adjust the colour.

During the final visit a client is taught how to maintain their eye prosthesis. They need to know how to take it out, clean it then put it back in. It is recommended that an eye prosthesis is taken out only about once a month. When the prosthesis first goes in, the eye socket produces a lot of tears to try and flush it out. However, there is an oily substance in the tears that coats the prosthesis and once it is thoroughly coated the socket no longer recognises it as a foreign body. It can take two days for the prosthesis to become fully coated. Every time the eye is taken out, this protective coating is rubbed off and the eye then needs to go through the whole settling-in process again.

A common misconception amongst professionals in the health system is that artificial eyes last for years. In fact, an eye lasts approximately five years. Changes

to the eye socket through tissue atrophy often occur. This leads to discomfort for the wearer and an eye that turns or just no longer has a natural appearance. This can be rectified by crafting a new eye prosthesis.

Offering emotional support is perhaps the least known aspect of the ocularist's role. And yet it is just as important as producing a normal-looking artificial eye.

The emotional responses and behaviours to losing an eye range from sadness, anger, shock, anxiety, withdrawal and depression. Support needs to begin before the actual eye loss.

"We see people in hospitals before they have their surgery to have the eye removed," Paul says. "We explain what lies ahead with the surgery, about a conformer shell being placed in the socket during surgery, and the healing time before an artificial eye can be made. It might sound basic, but sometimes people don't realise there's a conformer shell in the socket, and due to post enucleation swelling, it is possible for the shell to fall out when they get home. This really frightens them. The conformer shell is only a spacer and is easily reinserted".

A six week gap elapses between the patient leaving hospital after surgery and

going to the first artificial eye appointment.

To bridge this gap, the Ocularists Association of Australia, in conjunction with ophthalmologists, is producing a brochure entitled *Going Home From Hospital*. It will be distributed through hospitals and ophthalmologists. The brochure covers everything patients need to know about what to expect after their surgery.

A second brochure, *Maintenance of Your Eye*, will also be available for patients. By explaining how to clean and care for artificial eyes, this brochure increases a person's confidence and understanding in handling the new eye.

"We have a good relationship with ophthalmologists and hospitals," Paul says. "We invite ophthalmologists to come and view what we do, and we go into hospitals to give presentations to nurses and doctors about our services and how we work".

With new implant technology and coupling techniques for the muscles in the eye, good movement can be achieved. A specialist ocularist and modern techniques can create a natural looking and comfortable eye prosthesis for most recipients. ■

Paul Geelan and Jenny Geelen (www.geelen.com.au) are members of **The Ocularists Association of Australia** (www.ocularistsaustralia.com.au)

