The prosthetic industry has changed a lot in the 26 years I have been working in it. When I first started, I worked in the RALAC (Repatriation Artificial Limb and Appliance Centre) system that most of the older amputees in Australia will remember.

Back then there were still a lot of wooden limbs being made, but it was also a time of change, as the first generation of modular prosthetic components were starting to be used more regularly around the country, as well as new developments in the types of plastics and materials we were starting to use to fabricate the limbs.

In those first years that I was at RALAC, changes in prosthetic design and fabrication techniques were starting to be introduced and were fast becoming the standard of fabrication. There were thermoplastic liners using flexible plastics, carbon fibre and kevlar fabrics that could be incorporated into the fibreglass and resin, silicone liners, changes to the way we did the initial casting for the prosthesis and big changes to the way the amputee was treated and rehabilitated. All of these changes resulted in an overall better result for the amputee, and a more efficient and repeatable treatment options for the prosthetist.

These days, there are a lot of technological developments that have occurred in the prosthetic industry, as well as further developments in the rehabilitation methods that benefit the amputee. There has been a big movement towards digital control systems for prosthetic limbs, there are now fully programmable electronic hands that do an excellent job of mimicking human function for the benefit of the amputee. There are electronically controlled and fully programmable knees and ankle available to assist the amputee with their walking and balance. The new generation of silicone liners and the patient casting systems that are available make the whole process of designing and fitting the prosthesis more evidence-based, which is an enormous benefit to the amputee and the prosthetist.

The technology behind these electronic prosthetic components is the result of many years of experimentation and design, and represent enormous investments of time and money by the companies that have produced them for the benefit of amputees world-wide.

The flow on effect from these high-end technological developments can be seen in the more commonly used components that are now used daily in the industry. The materials limbs are made from, the strength and the simplicity of the design of the components has improved greatly as a direct result of the push towards more technological prosthetic solutions for amputees. However, above all these considerations is the function of the components for the amputee.

There has been big improvement in the function, fit and comfort of the prosthesis for the amputee as a direct result of the research and development that has been happening behind the scenes all over the world. We are now able to provide very lightweight, comfortable and functional limbs for all types of people to allow them to return to whatever activities they like and enjoy, whereas in the past this was not always possible. We are also fortunate that there is much more flexibility in the way that limbs are able to be provided in Tasmania, so that we can make best use of the available components and parts to customise the fit and function for each individual and their specific requirements.

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