

Early Australian contact lens practice

Adrian S Bruce PhD

Centre for Eye Research, School of Optometry, Queensland University of Technology

Recently, a number of papers have addressed the international history of contact lens practice. In this paper, the unique features of early Australian contact lens practice are reviewed. The most important landmark was the introduction of ground glass haptic lenses to Australia during the 1920s. However, Australian ophthalmologists subsequently entered into an exclusive trade agreement with the manufacturers, Zeiss of Germany. Only when contact lens development entered the age of plastics, during the 1940s, were Australian optometrists able to readily prescribe contact lenses.

Accepted for publication: 6 August 1992

Clin & Exp Optom 75:4:156-158. 1992 July-August

Keywords: contact lenses, Australian history, scleral lens, glass contact lens

'The history of contact lenses in Australia is brief and inglorious...' Dr William G Kett (1946).¹

The early use of contact lenses in Australia, and the factors that led Kett to make this statement are not widely known. A recent review of the first contact lens case report in Australia, published in 1930, had a primarily international perspective.²

Other information regarding contact lens history also has an international perspective. Pearson and Efron^{3,4} have reviewed the development of the earliest practical contact lenses in Europe by Fick in 1888, and by Müller in 1889. Subsequent developments in contact lens technology are discussed in current contact lens textbooks, but from a viewpoint that ignores the local factors that shaped contact lens practice in Australia.^{5,6}

This paper briefly reviews the events and milestones in early Australian contact lens practice. It reports certain events in Australian history: 1. the use of glass contact lenses by ophthalmologists; 2. the first paper on contact lenses published by an optometrist; 3. the first type of contact lens used by optometrists and; 4. the inauguration of the Contact Lens Society of Australia and New Zealand.

Zeiss glass scleral lenses

Australian ophthalmologists began using glass contact lenses during the 1920s.

Ringland Anderson authored the first contact lens case report in 1930 in the *Medical Journal of Australia*. This case report has been recently reviewed in detail.² Anderson fitted a Zeiss glass scleral lens to one eye of a patient with keratoconus, and all-day wearing was achieved.

The significance of the Zeiss scleral lenses was that they were the first commercially made glass contact lenses to be ground rather than blown. This process gave greater reproducibility and better optics than blown glass lenses.⁶ Unfortunately, the lenses were heavy and the edges poorly finished, so that comfort was sometimes less than optimal. Despite these limitations, the Zeiss scleral lenses were the 'state of the art' in Australia during the 1920s and 1930s.

First paper on contact lenses by an Australian optometrist

The first report on contact lenses in the *Australasian Journal of Optometry* was by Kett in 1931.⁷ This report covered contact lens history, manufacturing and the clinical application, in particular the techniques of insertion and removal. Kett had gained experience of contact lenses through travel to England and Germany, and then, later, in Australia, using a Zeiss fitting set.

Kett was unable to continue fitting patients because Australian ophthalmologists 'appealed to Zeiss to reserve

the fitting of their contact lenses for them, and Zeiss's agent upheld their appeal.'¹ It was this state of affairs that led Kett in 1946 to lament the history of contact lens practice in Australia as 'brief and inglorious'.¹ He reported that '...sadly enough, no ophthalmologist interested himself in the matter sufficiently to engage in research, and scientific contact lens fitting in Australia was now neglected, with the exception of one or two isolated instances until about 1938 when Dr John Maud returned to Sydney with the Dallos technique.' (The Dallos technique was that of moulding from a cast of the eye.)

From 1931 to 1943, three other reports on contact lenses were published in the *Australasian Journal of Optometry*; however, they were simply reprints from *The Optician*, *Archives of Ophthalmology* and the *British Journal of Ophthalmology*.⁸⁻¹⁰ Furthermore, these papers covered historical, theoretical or anecdotal aspects of contact lens wear, rather than clinical or research results.

PMMA scleral lenses

Australian optometrists began fitting contact lenses when polymethyl methacrylate (PMMA) haptic lenses became available from America towards the end of the Second World War.^{1,11,12}

The first clinical reports to deal with plastic contact lenses were published by Thomas in 1943.^{13,14} His reports considered optical principles, insertion

and removal techniques, physiological problems and fitting by both trial lens and casting methods. The use of fluorescein in assessing lens fit was also described.

Contact Lens Society

Optometrists' interest in contact lenses was demonstrated in 1948 with the inauguration of the Contact Lens Society of Australia and New Zealand.¹⁵ The office bearers and committee members are listed in Table 1. The objectives of the Society were stated as:

1. the scientific study of contact lens work in all its aspects
2. the promotion of research into various problems associated therewith
3. to publish its transactions and results of research
4. to encourage formation of branches.

The inauguration of a Contact Lens Society was part of an attempt by Kett and other optometrists to ensure that contact lens fitting was seen as being within their legitimate scope of practice. A 1946 paper by Kett was essentially a call for optometrists to examine their respective State Acts to ascertain their legal position in contact lens fitting.¹ The paper also urged the Australian Optical Association to develop a policy on contact lens fitting, and included an outline of a course in contact lens fitting intended for experienced optometrists.

The milestones in early contact lens practice discussed herein are shown on a time-line in Figure 1. To place the events in perspective, selected landmarks in international contact lens practice are shown on the same scale.

DISCUSSION AND CONCLUSIONS

This paper has briefly reviewed events in early Australian contact lens practice. The glass contact lenses were limited in performance and were primarily intended for treating pathological conditions of the cornea. Nevertheless, both ophthalmology and optometry signalled their interest in this form of optical correction, and reports of use of the lenses were published in the early

President	Dr WG Kett (Sydney)
Vice-President	Mr PF Thomas (Sydney)
Secretary	Mr A Black (Sydney)
Treasurer	Mr HR Brier (Brisbane)
Councillors	
	Mr WMP Barry (Auckland)
	Mr JS Cochrane (Brisbane)
	Mr J Lederer (Sydney)
	Mr CC Mazey (Perth)
	Mr D Pank (Adelaide)
	Mr FP Woolston (Townsville)
	Mr FCO Yeates (Perth)
Editorial Committee	
	Dr WG Kett (Sydney)
	Mr PF Thomas (Sydney)
	Mr J Lederer (Sydney)
	Mr WMP Barry (Auckland)

Table 1. Office bearers, and committee members listed as elected at the inaugural meeting of the Contact Lens Society of Australia and New Zealand, on 16 May, 1947.¹⁵ However, a working Society did not eventuate until some years later.

1930s. The opposition of ophthalmology to optometrists fitting contact lenses meant that optometrists were unable to put their interest into practice until the arrival of the PMMA material, more than 10 years later. The desire to overcome medical opposition to optometrists fitting contact lenses helped to promote the development of instruction courses in contact lens fitting and the formation of a Contact Lens Society.

It is important to note that, although the Society was inaugurated in 1948, it was inactive and did not meet again until February 1961. The development of the Contact Lens Society of Australia is the topic of a further paper.

This article has not reviewed milestones in the development of contact lens practice in Australia which occurred after 1950. Some events were a world wide phenomenon, such as the introduction of the hydrogel lens, while others were an Australian first, such as the use of hydrogen peroxide for disinfection, and the toric hydrogel lens.

The historical findings outlined in this paper serve to remind current optometrists of the obstacles faced by Australian contact lens practitioners 50 years ago. In addition to the laborious nature of haptic lens fitting and the limited tolerance shown to the ground

glass lenses, optometrists also had to contend with a lack of availability of lenses and materials.

REFERENCES

1. Kett W. Contact lenses. *Aust J Optom* 1946; **29**: 435-452.
2. Pearson R. An Australian contact lens anniversary. *Clin Exp Optom* 1990; **73**: 191-193.
3. Pearson R, Efron N. Hundreth anniversary of August Müller's inaugural dissertation on contact lenses. *Surv Ophthalmol* 1989; **34**: 133-141.
4. Efron N, Pearson R. Centenary celebration of Fick's Eine Contactbrille. *Arch Ophthalmol* 1988; **106**: 1370-1377.
5. Mandell R. Contact lens practice. Springfield, Illinois: Charles C Thomas, 1988.
6. Sabell A. The history of contact lenses. In: Phillips A, Stone J eds. Contact lenses: a textbook for practitioner and student. London: Butterworths, 1989: 1-34.
7. Kett W. Contact lenses. *Aust J Optom* 1931; **14**: 4-5,21.
8. Fowler W. Historical review of contact lenses from their inception.

International	Year	Australian
Blown glass protective corneal lens (Fick, 1888, Zurich)		
Ground glass scleral lens for myopia (Müller, 1889)	1890	
Ground glass scleral lens for keratoconus & astigmatism (Sultzer, 1892, Geneva)	1900	
Blown glass scleral lenses for refractive errors (Müller, 1909, Wiesbaden)	1910	
Ground glass scleral lens fitting set for keratoconus (Zeiss, 1920, Germany)	1920	
Moulding direct from the eye for fitting (Dallos, 1933, Hungary)	1930	Case report of glass scleral lens for keratoconus (Anderson, 1930, <i>Med J Aust</i>)
PMMA used (Obrig, 1939, New York)	1940	Review of contact lenses (Kett, 1931, <i>Aust J Optom</i>)
Use of fluorescein in fitting lenses (Greenspoon, 1939, New York)		Case reports of PMMA scleral lenses (Thomas, 1943, <i>Aust J Optom</i>)
Corneal hypoxia in lens wear shown (Smelser & Ozanics, 1952, New York)	1950	First attempt to form The Contact Lens Society of Australia & New Zealand (1948)
Introduction of PMMA corneal lenses (early 1950s)	1960	

Figure 1. Time-line of selected events in early Australian and international contact lens development.

Aust J Optom 1941; **24**: 329-331.

9. Hiene P. Facts about contact glasses. *Aust J Optom* 1938; **21**: 487-490.
10. Williamson-Noble F, Dallos J, Mann I. Sphero-cylindrical contact lenses - a preliminary note. *Aust J Optom* 1940; **23**: 125-129.
11. Yeates F. Contact lenses - their uses, advantages and limitations. *Aust J Optom* 1947; **30**: 448-452.
12. Thomas P. Contact lenses. *Aust J Optom* 1948; **31**: 348-352.
13. Thomas P. Contact lenses. *Aust J Optom* 1943; **26**: 294-300.
14. Thomas P. Contact lenses. *Aust J Optom* 1943; **26**: 492-523.
15. Kett W. The Contact Lens Society of Australia and New Zealand. *Aust J Optom* 1948; **31**: 313-316.

Author's address:
Adrian S Bruce
Centre for Eye Research
Queensland University of Technology
GPO Box 2434
Brisbane QLD 4001
AUSTRALIA