

AUSTRALIAN ABORIGINAL EYE HEALTH — AND WHAT MUST BE DONE

Professor Fred Hollows
 Director, National Trachoma and
 Eye Health Program

The fact that Aborigines in Australia suffer poor eye health has been well attested, notably by Flynn, Mann, and most recently, the work of the National Trachoma and Eye Health Program.

During 1976 and 1977, the program, organised by the Royal Australian College of Ophthalmologists, visited more than 320 Aboriginal communities throughout rural Australia.

Almost 75,000 people were seen, of whom 49,781 were Aborigines. Of the latter, some 15,621 show signs of trachoma. Trachoma is a form of conjunctivitis with characteristic signs that are readily detectable. In childhood, these signs are follicles, papillae and limbal follicles, which proceed through the teenage years into adult life to scarring, Herbert's Pits, pannus and trachiasis.

The basic infection — often a non-troublesome conjunctivitis — is associated with an obligatory intra-cellular bacterium called *Chlamydia trachomatis*. This poorly antigenic "bug" appears to have the following attributes:

1. It is probably harboured without great inconvenience by many mammalian hosts;
2. Strains of chlamydia can be found in the linings of all portals of entry, that is in eyes, noses, ears, the respiratory system, the urethra, vagina, cervix and rectum.
3. Whether or not a particular clinical entity is associated with the presence of chlamydia appears to be due to a concurrence of environmental circumstances that favour their development. Some such diseases are non-specific urethritis, ocular trachoma, chlamydial respiratory syndrome and inclusion conjunctivitis.
4. It seems likely that humans will always harbour the organism.

For each portal of entry chlamydial disease, there is a cluster of conditions necessary for its development.

In the Australian context, trachoma, as an ocular portal of entry disease, requires:

1. Prolonged exposure to the organism;
2. Repeated exposure to the organism;
3. Eye to eye secretion swapping;
4. Hot, dry, bright climatic conditions;
5. Prolonged body contact, especially between women and children and children and children; and
6. Poor individual and group hygiene.

Trachoma manifests itself in childhood as a local immune overgrowth which brings in its train certain indirect deleterious consequences. Follicles — immune hypertrophy — are followed by scarring. A scarred conjunctival membrane appears to be a second-rate protecting membrane.

Eyes infected by chlamydiae are prone to repeated infections by other bugs.

Again, eye infections and injury, including surgery, have much more serious consequences than in eyes that are not affected by trachoma. There are three possible explanations:

1. The scarred trachomatous conjunctiva is not able to provide the normal mechanical and humoral protection;
2. The trachoma organism may directly inhibit macrophage activity, thus enhancing infection;
3. Previous trachoma infection may sensitise ocular tissue to subsequent non-trachomatous infections.

Trachoma provides the support pathology for most Aboriginal blinding corneal disease. Corneal disease is the major cause of incurable blindness in Australian Aborigines.

Monocular and Binocular blindness — National figures: Aborigines

	No. seen	Monocular	Binocular
All Aborigines	48,782	1,420 (2.9%)	844 (1.7%)
Aborigines over 60	3,160	658 (21%)	644 (20%)

One in every 21 Aborigines we have seen is blind in one or both eyes. When one looks at the figures for people over 60, more than four in ten people are blind in one or both eyes. In many communities and areas we visited, the figures were much worse.

The trachoma organism appears to be sensitive to many readily available antibiotics — antibiotics available for both systemic and topical application.

We have an organism that infects most portal of entry mucosal surfaces of most persons in most Aboriginal communities: the children in these communities show trachoma follicles — a good index of trachoma infection — and the adults have high rates of blindness due to trachoma-induced corneal disease.

We can treat people so that they reduce the rate at which they shed and spread trachoma organisms to and from each other. Probably the best method of giving the medication is by mouth, and it is probably better to treat all persons in trachomatous communities, with the exception of those under three months of age, and women who are pregnant.

All persons in trachomatous communities are part of the infectious pool. It is the infectious pool we must treat.

The success of trachoma treatment programs can readily be gauged by rescreening children after treatment, and measuring the extent to which follicles have been reduced. The aim of a treatment program is to achieve children without follicles and scarring — alliteratively, follicle-free five year olds.

In 1972, I was involved in a treatment program at Engonnia, in upper western NSW. There we have now almost achieved our objective of follicle free children. Ninety-five per cent of children there are free of follicles, and all children born since 1972 are free of follicles.

ENNONIA TREATMENT TRIAL CHILDREN 2-11 YEARS

Follicle grade	Before treatment 1972		After treatment 1975	
	No.	Percentage	No.	Percentage
0	9	25	36	95
1	16	44	2	5
2	10	28	0	0
3	1	3	0	0
	36		38	

Trachoma treatment must be followed up. To prevent or lessen the effects of non-trachomatous added infections, topical antibiotics should be applied widely in the communities, especially in those whose anterior eyes are prone to damage, that is in those with significant trachoma scarring, and especially during periods of acute infective conjunctivitis and conjunctivo-keratitis. Epidemics of acute conjunctivitis and conjunctivo-keratitis frequently sweep through trachomatous Aboriginal communities.

TRACHOMA SCARRING IN ABORIGINAL COMMUNITIES

Age	Total number	Scarring 1, 2, & 3	Scarring 2 & 3
Under 11	19,708	2,218 (11%)	573 (2.9%)
Over 11	29,055	14,693 (51%)	6,125 (21%)
Over 60	3,160	2,570 (81%)	1,713 (54%)

As Professor Barrie Jones, one of the world's leading authorities on trachoma, said in his report to the Royal Australian College of Ophthalmologists on the activities of the trachoma program:

"The provision of family-based immediate topical chemotherapy of every red or sticky eye is an objective that can be achieved only within the context of a substantial community-based move towards health, arising within the Aboriginal communities."

Of course trachoma is one of the environmental diseases, and environmental disease must be tackled at its base. Aborigines have traditionally moved in small groups over vast areas. Their culture has provided them with the hygiene rules necessary for small mobile groups. For such small groups there is a small infectious pool and only infrequent cycling disease.

At present, however, most Aborigines live in large, stationary groups, forming large infectious pools and suffering constant cycling disease.

They do not have incorporated in their style of living the hygiene rules necessary for large stationary groups.

A large group, for example, needs to be able to utilise certain basic health amenities. Three such amenities are:

1. Water for washing at the rate of at least 100 litres per person per day;
2. Separated sleeping and breathing space;
3. Hygienic above-ground accommodation.

The provision of these amenities is an urgent necessity, but no less urgent is the accomplishment of the utilisation of these amenities.

Therefore to deal with trachoma we have three requirements:

1. The need to mass treat trachomatous communities.
2. The need for follow-up and for readily available treatment for secondary conjunctivitis; and
3. The provision of basic health amenities and the utilisation of these amenities.

How can this be done?

It will certainly not be done by cultural invasion, by attempts to superimpose white methods and techniques willy-nilly on the Aboriginal communities. It will not be achieved by demanding of Aborigines a pattern of activation or an order that is foreign to them.

We must use the existing group structures!

We must find out who and what the Aboriginal organisation is around and about the Aboriginal communities. This requires detailed knowledge from people in the group, so local personnel must be employed from the start.

Having identified the groups, the first duty of liaison workers, there must be consultation, discussion, explanation, familiarity and empathy with the group.

This will take time and effort and it will often come about in a way both strange and inconvenient to the white health resource person but it is essential that the authority structure of the target groups be "levelled with" completely.

Aborigines will quite quickly establish the bona fides of any health agent if he or she sits down and talks with them on their terms.

Then follows identification with and commitment to the group. Once this commitment is made, and the Aboriginal structure understands and agrees the program may become the base of a community based health service.

In this, the National Trachoma and Eye Health Program agrees with and is carrying out the policy of the Government. As the Minister for Aboriginal Affairs, Mr Ian Viner, said last year, there will be no headway made in improving Aboriginal health

"until the Aboriginal people are involved in solutions to the basic health needs of their life at the grass-roots level".

Again, as Mr Viner has said, the basic principles must be:

"self-management, self-sufficiency and Aboriginality".

The communities will choose and supervise Aboriginal health workers, chosen, as a leading trachomatologist, Chandler Dawson, has said

"by cultural and other local attitudes".

Again, however, there is often a great reluctance on the part of individuals to subject themselves to prolonged "whitefella" type vocational training, so, as Chandler Dawson has said --

"Training for village health workers must be short, simple, and carried out in the community, since there may be a high rate of turnover of these workers".

This high turnover serendipitously provides a wide base of health knowledge.

It is insufficient that Aboriginal health workers be employed and trained. The health service must be community based. That is, resources must be directed by and administered by the Aboriginal people. Aboriginal people must decide policy, give directions and utilise the necessary white resource personnel.

As Chandler Dawson has put it:

"In the final analysis, trachoma control programs should not be considered only in the narrow context of preventing blindness but as the beginning of a sustained effort to deliver eye health care to rural communities."

Everywhere the National Trachoma and Eye Health Program has moved, we have attempted, albeit insufficiently, to proceed via consultation, discussion, explanation, familiarity and empathy. Whatever the trachoma program has achieved has been due to this.

In 1978, the trend in Aboriginal health is moving from earlier, mostly unsuccessful attempts to train Aborigines to use white health structures into methods that involve whole communities in their own health care.

It is good to see community-based Aboriginal health services taking over or beginning to take over in places such as:

Redfern, Sydney
Kempsey, NSW
Melbourne
Adelaide
Port Augusta
Perth
Fitzroy Crossing

Carnarvon
In the Pitjantjatjarra homelands
At Alice Springs
Papunya
Utopia
Townsville
Brisbane