A HANDBOOK ABOUT OTITIS MEDIA FOR INDIGENOUS PEOPLES

PARENTS & CAREGIVERS



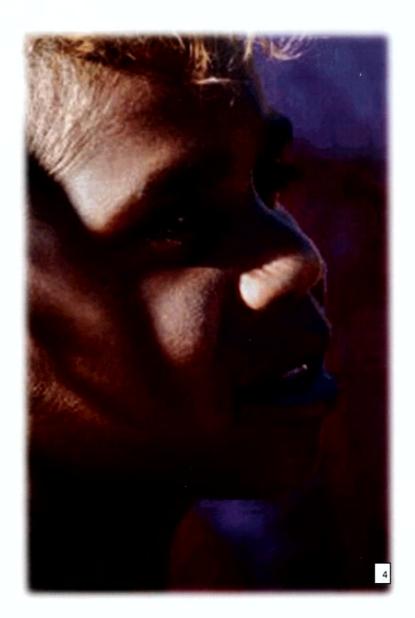
OTITIS
MEDIA AND
INDIGENOUS
PEOPLES

A HANDBOOK ABOUT OTITIS MEDIA FOR INDIGENOUS PEOPLES, PARENTS AND CAREGIVERS





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This manual is written as part of my major project for the HSC Aboriginal Studies course. The content within this manual is for informational purposes and should not be used as a substitute for professional advice. The specific circumstances and reactions of each individual are different; therefore it is important to seek professional advice. In addition, the material within this manual may become out of date over time.

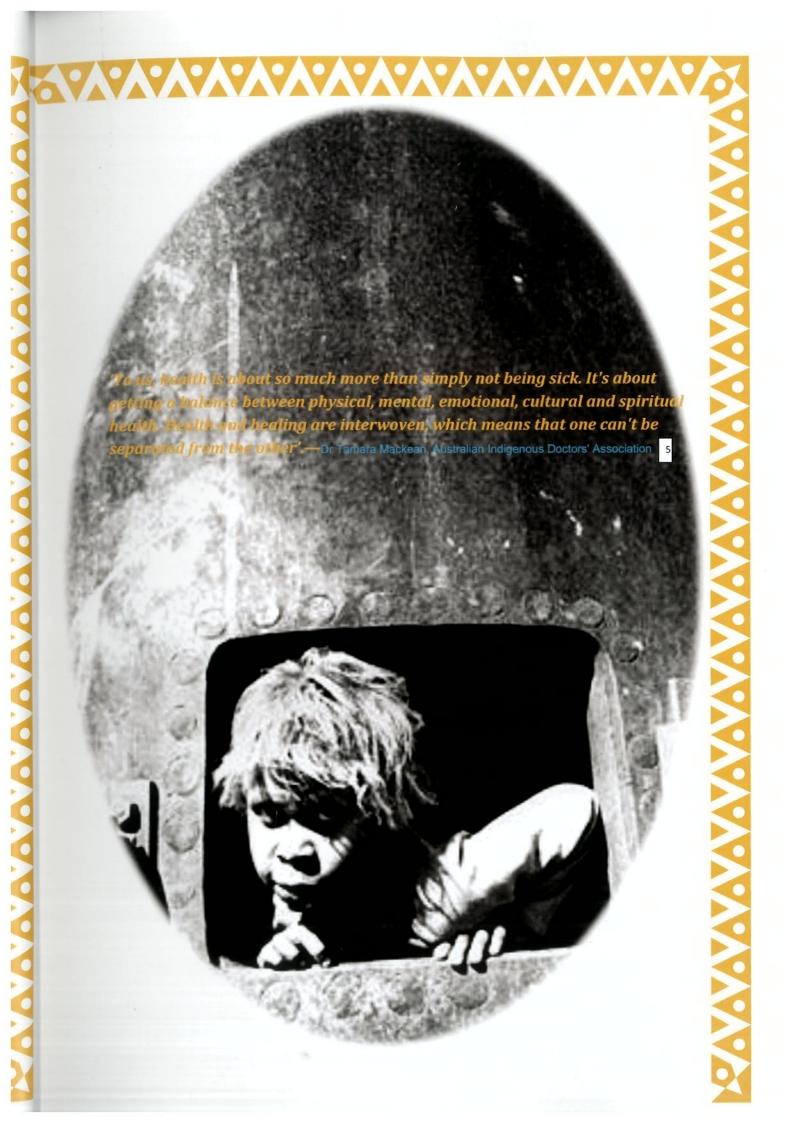
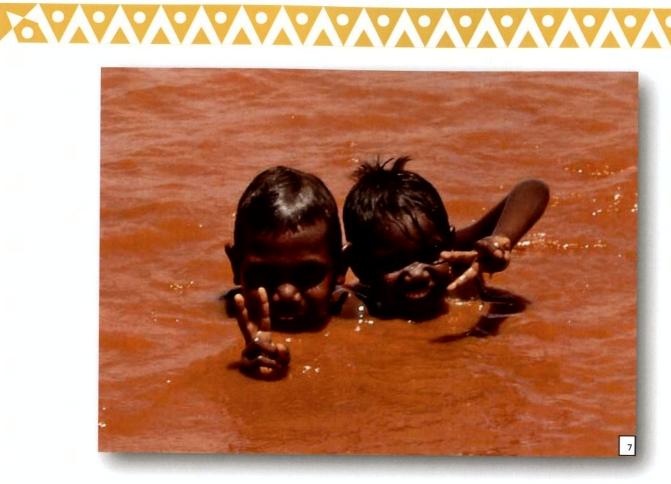


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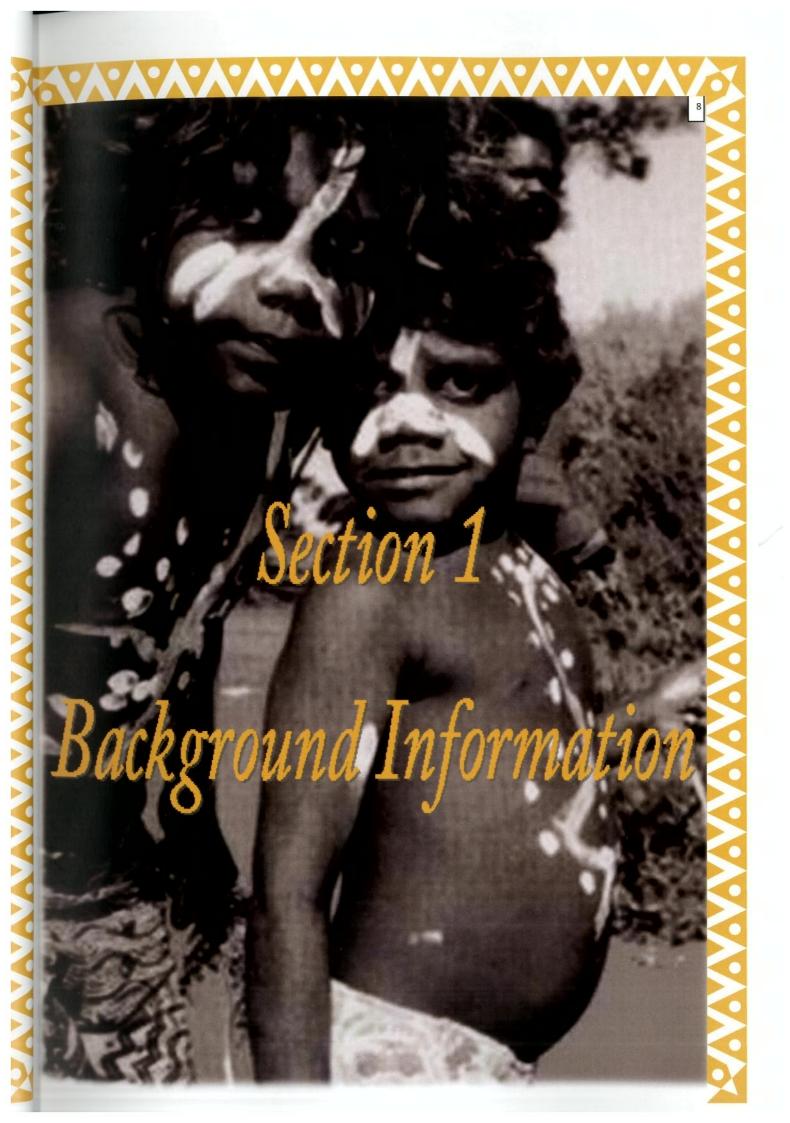


Preface:

The health of Aboriginal Australians in the twenty first century is a far cry from their original health status prior to colonisation. Since 1788, the health of Aboriginal Australians has steadily exacerbated, its effects still present today in the form of diabetes, trachoma, kidney disease, lower life expectancy, higher infant mortality, and ear disease and subsequent hearing loss. Ear disease, in particular otitis media and subsequent hearing loss poses as a major health problem in Aboriginal communities, as they sustain high occurrence rates. 93% of Aboriginal children will experience otitis media in early childhood. Otitis media and subsequent hearing loss is concentrated in younger age groups, such as infants and children. As a result, not only does otitis media affect the health of Aboriginal Australians, it also affects their learning and education, generating a series of chain events of social alienation, behavioural problems, low employment opportunities, welfare dependency, substance abuse, crime, and deaths in custody. To counteract this issue, programs and strategies have been designed and implemented with the aim of improving the health of Aboriginal Australians. A past history of colonisation, racism, dispossession and dislocation still leaves its mark behind; understanding and reconciliation is essential to heal old wounds.

¹ B. Pascoe with AIATSIS, p32-36, *The Little Red Yellow Black Book An introduction to Indigenous Australia*² Australian Indigenous Health*InfoNet*, Ear*InfoNet*, *Review of educational and other approaches to hearing loss among Indigenous people*, http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/our-review-education, last witnessed 19/3/11

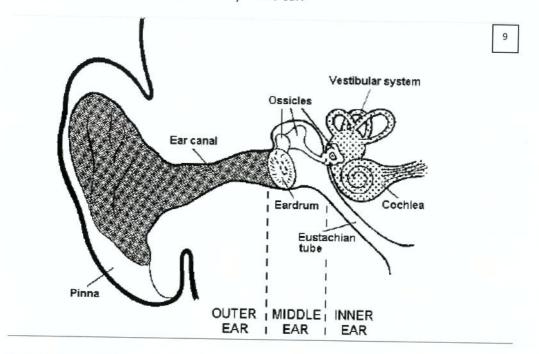
B. Pascoe with AIATSIS, p32-36, The Little Red Yellow Black Book An introduction to Indigenous Australia



Anatomy and physiology of the ear:

The ear is made up of three parts; the outer ear, the middle ear and the inner ear. ⁴ Otitis media is found in the middle ear, and therefore we will focus particularly on the structure and functions of the middle ear, although all three parts are essential in the function of the ear.

Below is a diagram of the basic anatomy of the ear:



Basic Anatomy of the ear: Source from the Aboriginal ear health manual

The Outer Ear:

The outer ear consists of the external auditory meatus (ear canal), the pinna (external ear) and runs along the full length of the ear canal, ending at the tympanic membrane or tympanum (eardrum). The main purpose of the outer ear is to act as a 'receiver' of sound. The unusual shape of the pinna helps receive vibrations in the air (soundwaves) and funnels it through the ear canal until it hits the eardrum. The ear canal is about 24mm in length, and is made up of cartilage, bone and lined with skin. The ear canal secretes cerumen (ear wax) from the ceruminous glands (wax glands) which, along with the tiny hairs lining

the canal, trap any foreign particles present in the canal. 9 The eardrum



⁴p8, Hunan Body

⁵ C. Harvey, S. Vijayasekaran, A. Mackendrick, L. Leidwinger, p7-8, *Aboriginal Ear Health Manual* ⁶ p8, *Hunan Body*

⁷ E. P. Solomon, P. William Davis, p371-372, *Human Anatomy and Physiology*

⁸ C. Harvey, S. Vijayasekaran, A. Mackendrick, L. Leidwinger, p7-8, *Aboriginal Ear Health Manual*

marks the end of the ear canal and is the borderline between the external and internal ear. It is composed of skin, fibre and the mucous membrane. ¹⁰

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The Middle Ear:

The middle ear is a small, moist, air filled cavity which is connected to the eardrum, inner ear and the eustachian tube. The middle ear encompasses of three 'important auditory structures': the malleus (hammer), the incus (anvil), and the stapes (stirrup). 11 12

These three small yet vital bones are called the ossicles. The ossicles form a chain across the middle ear, and, as the eardrum vibrates, the ossicles in turn also vibrates, transferring the vibrations from the eardrum along to the inner ear. ¹³

The eustachian tube connects the middle ear to the back of the nose and the upper part of the throat. The eustachian tube usually remains closed, but opens from time to time to allow air into the middle ear. The eustachian tube equalises air pressure in the middle ear in relation to the outside environment by opening, allowing air to pass in or out of the middle ear. The eustachian tube can be opened by sneezing, swallowing or yawning. However, when opened, the eustachian tube can also act as a pathway for bacteria and germs from the nose or throat to travel to the middle ear, causing infection. A child's eustachian tube is shorter in length and slightly different in shape compared to an adult's eustachian tube, therefore increasing the chances of contamination from the nose. 14 15



The inner ear is extremely complex, consisting of 'fluid-filled spaces' and membranous and bony labyrinths and is located deep within the skull. The balance and hearing systems are contained in the inner ear. The hearing system is situated in the cochlea. The vibrations sent by the ossicles in the middle ear are transferred to the cochlea, which turns the vibrations into electrical impulses. These electrical impulses are then sent to the brain via the auditory nerve. ¹⁶ ¹⁷

⁹ E. P. Solomon, P. William Davis, p371-372, *Human Anatomy and Physiology*

¹⁰ C. Harvey, S. Vijayasekaran, A. Mackendrick, L. Leidwinger, p7-8, *Aboriginal Ear Health Manual*

¹¹ E. P. Solomon, P. William Davis, p371-372, *Human Anatomy and Physiology* p8-9, *Human Body*

E. P. Solomon, P. William Davis, p371-372, Human Anatomy and Physiology

¹⁴ C. Harvey, S. Vijayasekaran, A. Mackendrick, L. Leidwinger, p7-8, Aboriginal Ear Health Manual

E. P. Solomon, P. William Davis, p371-372, Human Anatomy and Physiology

¹⁶ B. Pansky, p120-121, Review of Gross Anatomy Fourth Edition

C. Harvey, S. Vijayasekaran, A. Mackendrick, L. Leidwinger, p7-8, Aboriginal Ear Health Manual

What is Otitis Media?

The definition of otitis media is the 'inflammation of the middle ear, or tympanum'. The word *Otitis* refers to the 'inflammation of the ear' and the word *Media* means 'middle'.¹⁸

Otitis Media is a general umbrella term for all middle ear inflammations and infections; there are many forms of otitis media, including acute otitis media (AOM) without

perforation, acute otitis media with perforation, recurrent acute otitis media (rAOM), chronic otitis media, chronic suppurative otitis media (CSOM), otitis media with effusion (OME), dry perforation and otitis externa. ¹⁹

All types of otitis media affect Indigenous peoples, however, the rate of the different types of otitis media varies between different regions. For example, in the Sunrise Katherine East Region, the most common types of otitis media that affect Indigenous people are acute otitis media, chronic suppurative otitis media, otitis media with effusion, dry perforation and wet perforation. ²⁰

Below is a list of all the types of otitis media:

Acute otitis media (AOM) refers to a short and painful episode of middle ear infection. Acute otitis media is classified into three categories: acute otitis media without perforation, acute otitis media with perforation, and recurrent acute otitis media.²¹

Acute otitis media without perforation

is the short and painful 'inflammation of the middle ear and eardrum (tympanic membrane), usually with signs or symptoms of infection.' The build up of fluids such as pus behind the eardrum is a sign of acute otitis media, Source from Aboriginal Ear Health Manual



Bulging eardrum of AOM

along with any of the following symptoms: 'bludging eardrum, red eardrum, recent discharge of pus, fever, ear pain, and irritability'. Once the eardrum bursts due to the pressure of the fluids, a discharge of pus through the hole, or perforation of the eardrum will be evident in the ear canal, thus causing acute otitis media with perforation.²²

 18 J. V. Basmajian, p1006, Illustrated Stedman's Medical Dictionary 24 th Edition

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¹⁹ Australian Indigenous Health*InfoNet*, Ear*InfoNet*, Background Information, http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/background-information, last witnessed 20/1/11

²⁰ Information from Karen Duxfield: Aural Health Coordinator from Sunrise Health Service

²¹ Australian Indigenous HealthInfoNet, EarInfoNet, Background Information,

http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/background-information, last witnessed 20/1/11

²² Ibid

Acute otitis media with perforation is therefore a 'discharge of pus through perforation (hole) in the eardrum within the previous six weeks.'²³

As the name suggests, recurrent acute otitis media (rAOM) is when acute otitis media attacks over and over again, with 'more than three attacks of AOM within six months or more than four in twelve months.'²⁴

Chronic otitis media is the 'inflammation or infection of the middle ear that persists or

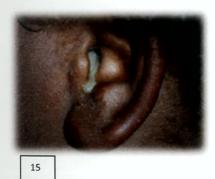
keeps coming back, and causes long-term or permanent damage to the ear'. Chronic otitis media can be classified as chronic suppurative otitis media, or otitis media with effusion, and 'can occur with or without perforation'. ²⁵ ²⁶ ²⁷

Chronic suppurative otitis
media (CSOM) is similar to acute otitis
media with perforation, except that the
discharge from the ear continues to persist.
Chronic suppurative otitis media is the
'recurrent or persistent bacterial infection of



Acute perforated eardrum.

the middle ear, with discharge and perforation of the ear drum', and is recognized when discharge from the eardrum continues for six weeks or more. There is no pain associated with it; however, hearing loss is characteristic of chronic suppurative otitis media. ²⁸



Otitis media with effusion (OME), or otherwise known as 'glue ear', can also be called serous otitis media or secretory otitis media. This particular type of otitis media is caused by Eustachian tube dysfunction or lack of nose blowing, and is identified by an 'inflammation of the middle ear characterized by fluid behind the eardrum, without signs or symptoms of acute otitis media.'^{29 30}

²⁴ S. Burrow, N. Thomson, p249, *Ear Disease and Hearing Loss* within *The health of Indigenous Australians, edited by N. Thomson*

²⁵ MedlinePlus, Ear Infection Chronic, http://www.nlm.nih.gov/medlineplus/ency/article/000619.htm, last witnessed 20/1/11

Australian Indigenous HealthInfoNet, EarInfoNet, Background Information, http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/background-information, last witnessed 20/1/11

MedicineNet.com, Otitis Media (Middle Ear Infection or Inflammation),

http://www.medicinenet.com/otitis_media/article.htm, last witnessed 16/2/11

Australian Indigenous HealthInfoNet, EarInfoNet, Background Information,
http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/background-information, last witnessed 20/1/11

²⁹ Information from Gypsy DeJonge: Surgical Care Co-ordinator, Hearing and ENT Department of Health and Families, Northern Territory Government

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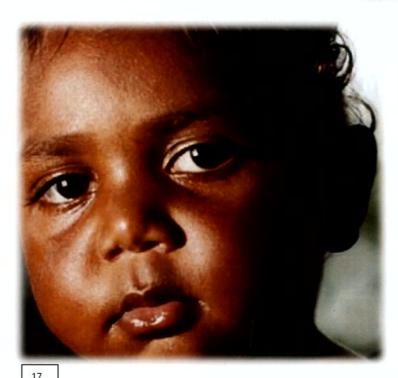
Dry perforation is the 'perforation of the eardrum, without any signs of discharge or fluid behind the eardrum.'³¹

Otitis externa, which is also known as 'swimmer's ear', is the 'infection of the skin covering the outer ear canal that leads in to the ear drum'. Excessive water exposure is the cause.

Source from Aboriginal Ear Health Manual



Classical Otitis externa.



³⁰ S. Burrow, N. Thomson, p249, *Ear Disease and Hearing Loss* within *The health of Indigenous Australians, edited by N. Thomson*³¹ Ibid

Aetiology: how is it contracted?

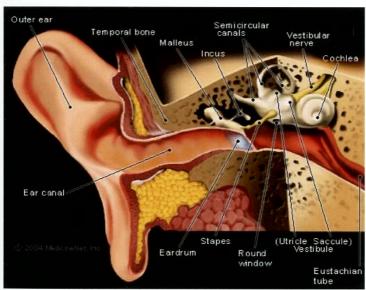
The various forms of otitis media often begin when 'infections that cause sore throats, colds, or other respiratory problems spread to the middle ear'32.

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As the Eustachian tube connects the upper part of the throat to the middle ear, any bacteria or viruses in the throat would be able to travel through the lining of the Eustachian tube and into the middle ear, causing infection in the middle ear (otitis media). Thus, the Eustachian tube may be blocked due to the swelling of the middle ear, which is a sign of infection. 33 34

To counteract the infection, the white blood cells swarm together to attack and kill the foreign bacteria. The resultant dead white blood cells formulate into pus ('thick, yellowish-white fluid'35), which builds up in the middle ear, and clogs up the eardrum and middle ear bones, preventing the ear bones to function properly, and therefore preventing sound from travelling properly, resulting in hearing loss. 36

Consequently, the patient cannot hear properly, and may result in chronic hearing loss if it persists. If not treated promptly, the infection will continue to deteriorate, and the fluids will continue to build up, adding pressure to the eardrum, which causes 'severe ear pain'. Eventually, the eardrum will tear from the pressure (perforation). 37



Source from MedicineNet.com[

³² Patient Education Institute, p3, X-Plain Otitis Media Reference Summary

³⁴ National Institute on deafness and other communication disorders: Ear Infections in Children,

ttp://www.nidcd.nih.gov/health/hearing/earinfections, last witnessed 15/3/11v 35 Patient Education Institute X-Plain Tutorial, p3, X-Plain Otitis Media Reference Summary

³⁶ Ibid

³⁷ Ibid

Diagnosis and process of what to do when you or your child contract otitis media:

There are different processes and signs and symptoms to determine the diagnostic criteria for otitis media. Usually, the signs and symptoms of otitis media are observed first, before the patient is presented to the doctor or medical practitioner to inspect the patient and diagnose them with otitis media.



Signs and Symptoms of otitis media:

There are various signs and symptoms of otitis media. The following is a list of symptoms suggestive of otitis media, particularly in a child:

For children less than 3 years:

- Unusual irritability
- Has a fever or high temperature
- Constantly tired or has difficulty in sleeping and night waking
- Poor feeding
- Running nose
- Loss of balance
- Hearing loss
- Experience pain in the ear, or have sore ears

For Children over 3 years:

- Has discharge (with or without smell) from the ear
- Experience pain in the ear, or have sore ears
- Hearing loss and ear popping
- Dizziness

Other signs and symptoms include:

- Tugging and pulling at the ear
- Easily distracted
- Poor behaviour
- Often speaks loudly
- Unresponsive or unaware of quiet sounds
- Turns the TV volume up too loudly
- Sits too close to the TV
- Is hard to understand
- Constantly asks for words or sentences to be repeated
- Does not answer when they cannot see the speaker 38 39 40 41



²⁰

³⁸ National Indigenous English Literacy and Numeracy Strategy: *Otitis media Information for Aboriginal parents, caregivers and community members*

What to do if you or your child has otitis media and process of diagnosis:

If you or your child has one or more of the above symptoms, it is recommended for them to contact an Aboriginal health worker at your local Aboriginal health centre for further advice. Some Aboriginal health workers will travel around an area, especially to schools and communities deemed to have high rates of otitis media to provide ear screening for otitis media for children. Testing for otitis media can be conducted at an Aboriginal health workers.



centre or at schools with qualified Aboriginal health workers. ⁴² ⁴³ Other people to contact if you think you or your child has otitis media are (it is important to notify your child's school as otitis media will impact on their learning and development):

- Aboriginal education assistant at your local school
- Early childhood nurse or nurse audiometrist at your local community health centre
- Community Health
- Aboriginal Medical Service Otitis Media Coordinator
- Australian Hearing
- Local Otitis Media Committee
- Itinerant Support Teacher (Hearing)
- Aboriginal Community Liaison Officer
- Consultant Aboriginal Education



audiogram.44

Note: The process of referral differs between each individual due to their different circumstances. Therefore, the information below should only be viewed as a general outline. The most important step is to follow the advice and instructions of your Aboriginal Health worker.

Should an Aboriginal health worker suspect that the patient has contracted any form of otitis media, they would diagnose otitis media through the use of otoscopy, tympanometry and or an

An otoscopy is a method used to detect otitis media by looking inside your ear to see whether the middle ear is inflamed or not. The device used to do this is called an otoscope, which shines a light

http://www.icsi.org/otitis media/diagnosis and treatment of otitis media in children 2304.html last witnessed 14/2/11

³⁹ Greater Western Area Health Service NSW Health: *Otitis What?*

⁴⁰ NSW Health: *Otitis Media Strategic Plan for Aboriginal Children*

⁴¹ Institute for clinical systems improvements,

⁴² Information from Robyn Sutherland: Aboriginal otitis media health worker at Eleanor Duncan Aboriginal Medical Centre

⁴³ Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

⁴⁴ Ibid

into your ear. Another type of otoscopy that is used to detect otitis media is called the pneumatic otoscopy. Pneumatic otoscopy works by testing how well the eardrum moves by using a rubber bulb to blow 'a puff of air into the eardrum.' An eardrum with fluids behind it does not move as well as an eardrum with air behind it. 46

There are three types of results: normal mobility, reduced mobility and immobility. Normal mobility occurs when the eardrum is able to move without restraint back and forth. Reduced mobility happens when there is limited eardrum movement, and indicates that there is fluid and air behind the eardrum. Immobility takes place when there is no movement of the eardrum, which is suggestive of fluid behind the eardrum if the eardrum is still intact. However, should the patient have functioning grommets or perforation of the eardrum, no eardrum movement can be observed either. ^{47 48}

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Tympanogram

A tympanogram, on the other hand, is used to measure pressure in the middle ear. This test is called a tympanometry, and involves placing a little plug into the ear. There are three readings on a tympanogram: Type A, Type B and Type C. Type A is a normal reading. Type B however, indicates a flat tympanic membrane, which suggests that there is fluid in the eardrum or a perforation of the eardrum. Type C is read when there is a blocked eustachian tube. 49

An audiogram is a device used to test your hearing levels. Occasionally, the otoscopy does not show any signs of otitis media in the patient's ear; everything may seem normal. However, the patient's hearing levels are down, which is tested by using an audiogram. This may be caused by otitis media or some other factor that is not yet known. If this is the case, then the Aboriginal health worker would send the patient to an audiologist for an audiology assessment or *Australian Hearing*, depending on the level of hearing loss and the geographical location of the patient's residence, as this affects the distance needed to travel from place to place. If the patient appears to have high or severe levels of hearing loss, then it is most likely that the patient will be sent to the audiologist or a GP (general practitioner). ⁵⁰ 51

http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/background-information, last witnessed 20/1/11

⁴⁵ Patient Education Institute X-Plain Tutorial, p5, X-Plain Otitis Media Reference Summary

⁴⁶ Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

⁴⁷ Ibid

⁴⁸ Australian Indigenous Health*InfoNet*, Ear*InfoNet*, *Background Information*,

⁴⁹ Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

⁵⁰ Ibid

⁵¹ Information from Robyn Sutherland: Aboriginal otitis media health worker at Eleanor Duncan Aboriginal Medical Centre

Testing for hearing loss is conducted by means of audiometric testing, including pure tone audiometry, speech audiometry and impedance audiometry. For young babies, hearing loss is tested by using a distraction test. In a distraction test, 'a sound is presented to a baby'52, and the response of the baby is observed. If



the baby has normal hearing levels, he/she will respond to the sound by moving his/her head to locate it. Pure tone audiometry is used to test hearing levels for children over the age of 3. This is tested by an audiometer. The audiometer will emit a 'range of beeps and whistles (pure tones), and the child will signal or press a button when they hear a sound. 53

However, should the Aboriginal health worker find that the patient shows signs of otitis media through otoscopy or tympanometry, they will then refer the patient to their family doctor or GP. 54

The GP may prescribe the patient antibiotics or ear drops. The type and dosage of antibiotics will depend on the mildness and type of otitis media. It is imperative that the patient adheres to the instructions of the GP strictly, such as where to store the antibiotics and the number of times and when to take the antibiotics; otherwise otitis media cannot be treated properly. 55 56

The patient will then return for a follow up with their Aboriginal health worker. In some cases, the patient would be completely cured of otitis media, and the chances of it being recurrent are slim. However, if the otitis media persists, then the GP will refer the patient to an ENT (ear, nose and throat) surgeon. After the ENT surgeon has examined the patient, depending on the condition and

⁵² Patient Education Institute X-Plain Tutorial, p5-6, X-Plain Otitis Media Reference

⁵³ Australian Indigenous HealthInfoNet, EarInfoNet, Background Information,

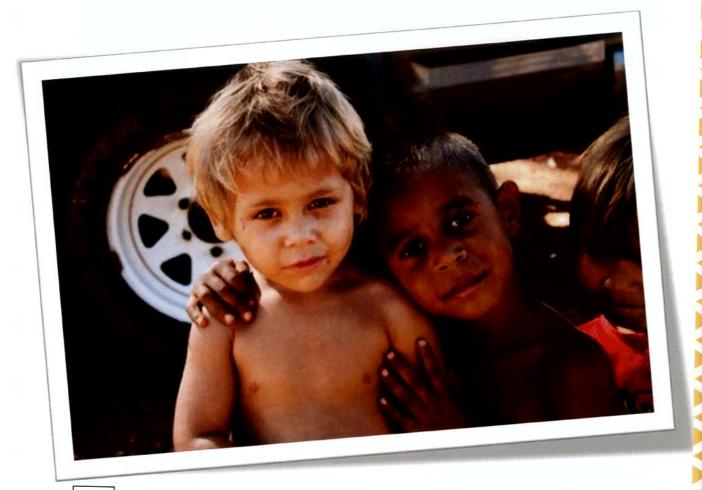
http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/background-information, last witnessed 20/1/11

⁵⁴ Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

⁵⁵ Ibid

⁵⁶ Information from Robyn Sutherland: Aboriginal otitis media health worker at Eleanor Duncan Aboriginal Medical Centre

mildness of the otitis media, the ENT surgeon may decide to either prescribe a stronger dose of antibiotics or admit them to hospital for the necessary surgical procedures. 57 58



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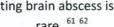
⁵⁷ Ibid

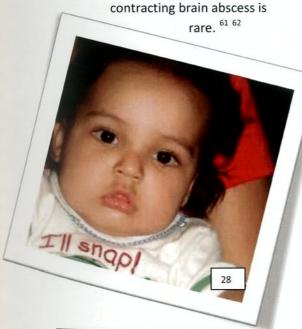
⁵⁸ Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

Prognosis (likely outcomes):

There are several possible outcomes of otitis media, including hearing loss, loss of balance, eardrum perforation, mastoiditis ('bacterial infection of the air cells in the skull behind the ear'59) and brain abscess. However, not all of these outcomes would be encountered by a person with otitis media. 60

Although otitis media often leads to hearing loss, it is not a definite outcome of otitis media. Eardrum perforation is a common result of otitis media, though it can be prevented through early detection and treatment. Mastoiditis is a possible outcome of otitis media, while the chance of







⁵⁹ Australian Indigenous Health*InfoNet*, Ear*InfoNet*, *Background Information*, http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/background-information, last witnessed 20/1/11

⁶¹ Australian Indigenous Health*InfoNet*, Ear*InfoNet*, *Background Information*, http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/background-information, last witnessed 20/1/11

⁶² Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt

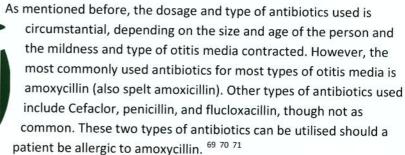
Treatment and management of otitis media:

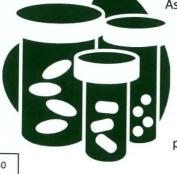
Note: The below information is to be treated only as a general outline, as the treatment for otitis media will differ between individuals depending on your circumstances, especially concerning type and amount of medication. E.g. your doctor may consider it appropriate to observe the otitis media for a few weeks to see whether it disappears on its own rather than take antibiotics.

The treatment for otitis media varies depending on the type of otitis media and the mildness of the otitis media contracted. Treatment for otitis media includes antibiotics, analgesics (medication for pain relief), ear drops, and surgery. 63 64 65

The most common treatment for otitis media is antibiotics, and is usually prescribed when otitis media is first diagnosed in a patient. Antibiotics are 'recommended for the management of all forms of otitis media other than dry perforation.' ⁶⁶ ⁶⁷

Antibiotics are used to fight and kill the bacteria which cause the inflammation in the middle ear. Topical (put on surface e.g. sprays) antibiotics are more generally more preferable then oral (through the mouth) or parenteral (via other routes e.g. injection) antibiotics, as topical antibiotics are considered to be more effective. 68





⁶³ Australian Indigenous Health*InfoNet*, Ear*InfoNet*, Background Information, http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/background-information, last

witnessed 20/1/11

⁶⁴ Kimberley Aboriginal Medical Services Council and WA Country Health Services: *Ear Health*

⁶⁵ Information from Robyn Sutherland: Aboriginal otitis media health worker at Eleanor Duncan Aboriginal Medical Centre

⁶⁶ S. Burrow, N. Thomson, p249, Ear Disease and Hearing Loss within The health of Indigenous Australians, edited by N. Thomson

⁶⁷ Information from Gypsy de Jonge Surgical Care Co-ordinator, Hearing and ENT Department of Health and Families, Northern Territory Government

⁶⁸ Australian Indigenous Health*InfoNet*, Ear*InfoNet*, *Background Information*,

http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/background-information, last witnessed 20/1/11

⁶⁹ H.Gunasekera, P. Morris, J. Daniels, S. Couzos, J. Craig, Management of Children with Otitis Media: A survey of Australian Aboriginal Medical Service

http://pediatrics.aappublications.org/cgi/content/abstract/121/Supplement 2/S98-a, last witnessed 18/3/11

⁷⁰ Kimberley Aboriginal Medical Services Council and WA Country Health Services: *Ear Health*

Acute otitis media and acute otitis media with perforation:

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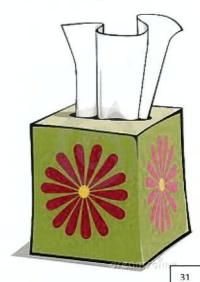
The recommended dosage of amoxycillin for acute otitis media is normally around 50mg/kg/dose, taken around two to three times a day, with a review by the doctor in a week's time. 72 73

For acute otitis media with perforation, the dosage of amoxycillin is an estimated 50-90mg/kg/day, taken from two to four times a day, with a review by the doctor in a week's time. 74 75

Treatment for acute otitis media with and without perforation both requires keeping the ear canal

clean. This can be done via a method called 'dry mopping'. This method uses a tissue, which is rolled to form a tissue spear. This tissue spear is then 'placed gently in the ear'76, and left in the ear for around twenty seconds before rotating it. The tissue spear is then removed, and the process is repeated until the ear canal is clear.77 78

Should discharge from the ear still be present after a week, an increase in the dosage of amoxycillin is given for a further seven days. After this period, usage of antibiotics should cease. If discharge from the ear persists, then it should be treated as chronic suppurative otitis media, not acute otitis media with or without perforation. 79 80



Recurrent acute otitis media and chronic otitis media:

For recurrent acute otitis media and chronic otitis media, amoxycillin is also used, although in smaller doses and for a longer period of time, to 'prevent recurrent infections' 81. Amoxycillin is taken for around a period of three months; with a review by the doctor at least once every month to ensure that there is no bacterial resistance to the antibiotics and therefore no 'break through' infections. Should there be an infection while the patient is on a course of antibiotics, an appointment with the ENT surgeon is necessary for surgery. 82 83

⁷¹ Menzies School of Health Research Ear Health and Education Unit, Ear Examination and Treatment Form 72 Ibid

⁷³ Kimberley Aboriginal Medical Services Council and WA Country Health Services: p2, Ear Health

⁷⁵ Menzies School of Health Research Ear Health and Education Unit, Ear Examination and Treatment Form Kimberley Aboriginal Medical services council and WA country Health Service Kimberley, Ear Health

Menzies School of Health Research Ear Health and Education Unit, Ear Examination and Treatment Form

⁸⁰ Kimberley Aboriginal Medical services council and WA country Health Service Kimberley, *Ear Health*

Menzies School of Health Research Ear Health and Education Unit, Ear Examination and Treatment Form ⁸³ Information from Robyn Sutherland: Aboriginal otitis media health worker at Eleanor Duncan Aboriginal Medical Centre

Chronic suppurative otitis media:

In the case of chronic suppurative otitis media, ear drops instead of antibiotics are recommended. Two types of eardrops may be used: Sofradex drops, or Ciprofloxacin drops (without steroid). Both Sofradex and Ciprofloxacin drops require four drops in the ear two to four times a day for a period of a week, with a review by the doctor at the end of that week. Before placing drops inside the ear canal, the canal must be kept clean by dry mopping. If discharge from the ear is still present, continue with the same procedure for another week. Should the discharge remain, then ear swabs may be necessary to investigate the otitis media. The results should be discussed with the ENT surgeon to determine the required procedures. 84 85

Otitis media with effusion:

The treatment of otitis media with effusion slightly differentiates from the previously discussed forms of otitis media. Otitis media with effusion is left alone for three months, with a review by the doctor at the end of the three months. If the otitis media still remains, then amoxycillin is used for a period of four weeks.86 87

Dry Perforation:

The treatment for dry perforation is similar to that of otitis media with effusion in that it is left alone and scrutinised closely for a period of three months. During that period, the patient's ears should be kept dry through dry mopping, particularly after showering or swimming. If there is any discharge from the ear or if the patient experiences ear pain, it should be notified immediately to the doctor or health clinic. Should the perforation continue to persist after three months, the patient would be referred to the audiologist and ENT specialist. 88 89



Putting ear drop into the ear

Otitis externa:

Otitis externa is treated by the usage of Sofradex ear drops for a period of a week for three times a day, using approximately two drops per time. A review is conducted on the second and last day. Once again, the ear canal must be thoroughly through dry mopping and kept dry. No swimming is permitted until the otitis media is gotten rid of completely. In the case of severe infections, the antibiotic flucloxacillin may be taken orally for around five days, or, it may be diagnosed as mastoiditis. 90 91

⁸⁴ Kimberley Aboriginal Medical services council and WA country Health Service Kimberley, Ear Health

⁸⁵ Menzies School of Health Research Ear Health and Education Unit, Ear Examination and Treatment Form

⁸⁶ Kimberley Aboriginal Medical services council and WA country Health Service Kimberley, Ear Health

⁸⁷ Menzies School of Health Research Ear Health and Education Unit, *Ear Examination and Treatment Form*

⁸⁹ Kimberley Aboriginal Medical services council and WA country Health Service Kimberley, Ear Health 90 Ibid

General points of information on managing otitis media:

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- It is of the utmost importance that a patient is compliant and follows all the instructions given specifically; otherwise, the treatment given will be rendered useless or ineffective against otitis media. For example, if a patient stops taking their medication (antibiotics) in the middle of or does not finish their course of treatment, then the remaining bacteria will become resistant to the antibiotics and multiply, exacerbating the infection. 92 93 94
- A patient may experience some form of side effect from the use of antibiotics, such as 'nausea, diarrhoea, and rashes'95.
- Paracetamol (otherwise known as panadol) can be taken as an analgesic for pain relief of the ear, or when dry mopping, as it may be very painful. 96

Surgery:

Surgery is a form of treatment for otitis media should the use of antibiotics proved ineffective. 97 98 The surgical procedure performed for the treatment of otitis media is called myringotomy (for prolonged otitis media with effusion) and myringoplasty (for prolonged dry perforations). 99 100

The aim of this particular surgery is to restore hearing by inserting tubes, more commonly referred to as grommets, in the opening of the eardrum to drain the fluids out (the build up of fluids in the middle ear are what causes hearing loss) 101. The role of the tube is also to maintain that the air pressure in the middle ear is equal to the air pressure in the outer ear and to ventilate it. This surgery is performed by the ENT surgeon that the patient was referred to when the course of antibiotics prescribed did not work. 102

⁹¹ Menzies School of Health Research Ear Health and Education Unit, Ear Examination and Treatment Form ⁹² Australian Indigenous Health*InfoNet*, Ear*InfoNet*, Background Information,

http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/background-information, last witnessed 20/1/11

⁹³S. Burrow, N. Thomson, p267, *Ear Disease and Hearing Loss* within *The health of Indigenous Australians,* edited by N. Thomson

⁹⁴ J. Sherwood, p18, Guidelines for the Prevention and Control of Otitis Media in Aboriginal Children within Aboriginal and Islander Health Worker Journal Volume 21 Number 1 Jan/Feb 1997

⁹⁵ Patient Education Institute, X-Plain Tutorial, p5, X-Plain Otitis Media Reference Summary

⁹⁶ Kimberley Aboriginal Medical services council and WA country Health Service Kimberley, Ear Health

⁹⁷ Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt

Australian Indigenous HealthInfoNet, EarInfoNet, Review of ear health and Hearing,

http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/our-review, last witnessed 19/3/11

⁹⁹ Australian Indigenous HealthInfoNet, EarInfoNet, Background Information,

http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/background-information, last witnessed 20/1/11

Information from Gypsy de Jonge Surgical Care Co-ordinator, Hearing and ENT Department of Health and Families, Northern Territory Government

¹⁰¹Information from Robyn Sutherland: Aboriginal otitis media health worker at Eleanor Duncan Aboriginal Medical Centre

Patient Education Institute, X-Plain Tutorial, p5-6, X-Plain Otitis Media Reference Summary

The process of the surgery is as follows:

First, the patient is put under general anaesthesia (whole body), so they won't be able to feel anything as they are unconscious. Next, a small opening is made and the tube placed inside. As this is a minor surgery, the patient should be able to return home on the same day after the surgery is done. The tube will remain inside for a period of five to twelve months. While the tube remains in the ear, no water must enter the middle ear. It is recommended that ear plugs are worn while bathing or showing to keep water out. Once the fluids are drained from the middle ear via the tube, then the patient's hearing should be fully restored. However, this procedure may be repeated if the patient experiences another episode of otitis media. ¹⁰³

Another surgical procedure that can be used to reduce episodes of otitis media (for patients over the age of four) is adenoidectomy. It involves the removal of large and infected adenoids (lymphatic glands), and can be performed at the same time as myringotomy. ¹⁰⁴



 $^{^{103}}$ Patient Education Institute, X-Plain Tutorial, p5-7, X-Plain Otitis Media Reference Summary lbid

Prevalence:

The rate of otitis media among Australian Aboriginal peoples are 'among the highest in the world'105. The World Health Organisation (WHO) considers a prevalence of otitis media of four percent in a population as a 'massive health problem', and yet a staggering ninety three percent of Aboriginal children experience otitis media in early childhood. 106 107

The prevalence of otitis media differs between communities, particularly between urban and



rural and remote areas (such as remote Northern Territory and Western Australia), as the 'Aboriginal population is heterogenous, 108 Generally, the rate of otitis media in Aboriginal peoples residing in urban areas are significantly lower than those in remote and rural areas. This is attributed to greater ease of access to appropriate health care. Only seven percent of Aboriginal children in rural and remote areas have healthy ears without otitis media, and eight to fifty percent of Aboriginal children living in remote Northern Territory communities suffer from otitis media. 109

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Otitis media affects Aboriginal children a great deal more due to anatomical reasons and other factors, although some adolescents and adults may also suffer otitis media from chronic otitis media contracted in their infant years. 110 In remote Queensland communities, fifty eight percent of Indigenous children aged from zero to fourteen suffer from poor ear health. This figure is escalated to eighty five percent when the age group is lowered to zero to four. 111 In the Northern Territory, the 'severe forms of ear disease, chronic draining, or burst eardrums' are experienced by twenty percent of Aboriginal children. 112

¹⁰⁵ S. Burrow, N. Thomson, p249, Ear Disease and Hearing Loss within The health of Indigenous Australians, edited by N. Thomson

Creative Spirits: Ear Health and Hearing Loss within Aboriginal Health,

tp://www.creativespirits.info/aboriginalculture/health/index.html, last witnessed 8/3/11

NSW Department of Health: Tympanoplasty and otitis media,

tp://www.health.nsw.gov.au/publichealth/chorep/atsi/atsi_otmedatisprochos.asp, last witnessed 3/3/11

S. Burrow, N. Thomson, p249, Ear Disease and Hearing Loss within The health of Indigenous Australians, edited by N. Thomson

Creative Spirits: Ear Health and Hearing Loss within Aboriginal Health,

^{//}www.creativespirits.info/aboriginalculture/health/index.html, last witnessed 8/3/11

Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at

¹¹¹ Creative Spirits: Ear Health and Hearing Loss within Aboriginal Health,

ww.creativespirits.info/aboriginalculture/health/index.html, last witnessed 8/3/11

Factors contributing to high rates of otitis media among Aboriginal people:

Otitis media affects all people, not just Aboriginal people. However, as mentioned above, Indigenous people suffer from absurdly high rates of otitis media compared to the non-Indigenous population. This is due to a number of factors that contribute to otitis media among Aboriginal people, such as lack of access to adequate health care, lifestyle or environmental conditions, lack of resources and education in what to do when they or their child catch a common cold or contracts otitis media, and



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lack of trust in hospitals and medical institutions due to past experiences. 113 114 115

Many rural and remote Aboriginal communities face poor lifestyle or environmental conditions, which increases the chances of contracting otitis media. These include living standards, diet and hygiene. 116

The living standards that some rural and remote Aboriginal communities face are lower than the national average with very limited access to resources. They live with overcrowding, poor housing and 'inadequate access to water, sewage systems, and waste removal.' In some households, there is an unrelenting exposure to cigarette smoke (passive smoking). These environmental risk factors all contribute to poor hygiene, thereby increasing the likelihood of contracting otitis media. 118

Most rural and remote Aboriginal communities suffer from poor nutrition; their diet rarely consists of fresh and nutritious foods such as fresh fruits and vegetables, which are fundamental for a healthy lifestyle. 119 120 This is attributed to the extremely high costs of fresh foods in remote areas, such as rural Northern



¹¹³ Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at

¹¹⁴ Australian Indigenous Health*InfoNet*, Ear*InfoNet*, Review of educational and other approaches to hearing loss among Indigenous people, http://www.healthinfonet.ecu.edu.au/other-health-

conditions/ear/reviews/our-review-education, last witnessed 19/3/11

115 Information from Dave Ferguson, otitis media representative at Bulgarr Ngaru Aboriginal Medical Service Australian Indigenous HealthInfoNet, EarInfoNet, Review of educational and other approaches to hearing loss among Indigenous people, http://www.healthinfonet.ecu.edu.au/other-healthonditions/ear/reviews/our-review-education, last witnessed 19/3/11

¹¹⁸ Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt 119 Ibid

¹²⁰ Information from Dave Ferguson, otitis media representative at Bulgarr Ngaru Aboriginal Medical Service

Territory, and Aboriginal people's low social economic status prevents them from regularly purchasing these essential food staples, thereby 'limiting their (Aboriginal peoples) access to nutritious foods.' 121 Excess alcohol consumption further exacerbates their health. This therefore leads to lower health levels and a weaker immune system, which results in the increase the risk of contracting otitis media. 122

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Aboriginal people also experience a lack of access to adequate health care, particularly in rural and remote communities, due to the long distances that they need to travel in order to reach health care. 123 124

To demonstrate, a hypothetical case is illustrated: An Aboriginal mother living in a remote Northern Territory community discovers that her child has a common cold, and sniffles often because of it. As with any illnesses, to cure it, she must bring her child to the doctor. However, to do this, she must wake up early, travel three hours to Alice Springs, wait for the doctor's appointment and then travel back again in time to make dinner for the rest of her family. In contrast, a family living

in suburban Sydney simply need to make an appointment with their local doctor via the phone and then take a five to ten minute drive there. Most people would make the decision not to make the three hour journey for a simple cold, in the belief that it will simply pass go away on its own accord.

Like all other diseases and illnesses, it is best and easiest to treat otitis media when first detected. As mentioned before, a way for otitis media to be contracted is by bacteria from common colds travelling up the eustachian tube to the middle ear. In the case of the Aboriginal mother from the

above example, by the time she realises that her child is inflicted with something more than a common cold, it would have been too late; the child would have already contracted otitis media. This is not uncommon in rural and remote Aboriginal communities, and therefore, the rates of otitis media are much higher than Aboriginal and non Aboriginal people in urban areas. 126

Another factor contributing to the high rates of otitis media in Aboriginal people is the lack of education in what to do when they or their child contract otitis media and lack of resources.



¹²¹Australian Indigenous Health*InfoNet*, Ear*InfoNet*, Review of ear health and Hearing, http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/our-review, last witnessed

Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

¹²³ Ibid

Australian Indigenous HealthInfoNet, EarInfoNet, Review of educational and other approaches to hearing loss among Indigenous people, http://www.healthinfonet.ecu.edu.au/other-health-

s/ear/reviews/our-review-education, last witnessed 19/3/11

Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at

¹²⁶ Ibid

Some Aboriginal people have low literacy levels, and therefore do not understand or remember the specific instructions that were written down for them by the doctor or health worker. Consequently, the instructions were not adhered to as required, and the treatment process is rendered ineffective. This leads to the assumption that Aboriginal people frequently have poor compliance with their treatment. ¹²⁷ Lack of resources also adds to the difficulty to comply with effective treatment. ¹²⁸

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For example, an Aboriginal mother's child contracted otitis media, and the doctor's instructions were to take store the antibiotics in a refrigerator and to take a certain amount every day. The Aboriginal mother didn't have a fridge, and therefore borrowed her neighbours' refrigerator to store the antibiotics. This increased the tendency to forget about the medicine. However, sugar ants were attracted if the medicine was stored outside at room temperature. ¹²⁹



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Another factor that contributes to high rates of otitis media among Aboriginal people is that some Aboriginal people still harbour some form of reserve or distrust of hospitals and medical institutions due to the history of governments taking away their children as part of the assimilation policy. This past history causes some Aboriginal to view hospitals and medical institutions with mistrust and sometimes fear. The assimilation policy allowed governments to legally take generations of Aboriginal children away from their families. ¹³⁰Aboriginal parents were blamed for mistreatment of their child if their child just had a common cold, and this gave governments reason to forcibly take the child away. Before the stolen generations were sent to girls' homes, boys' homes and foster homes, they were first taken to the hospital or police station.

"The concept of "don't go to the hospitals" was passed through the generations'- Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

Consequently, Aboriginal people avoided any government institution including hospitals and medical institutions at all costs. 131

Other Aboriginal people refuse to go to medical institutions for fear of the lack of confidentiality and privacy. They are afraid that their medical condition would not be treated with confidentiality, and that 'everyone' would know about their medical condition. By the time they are willing to go to the Aboriginal health centre, it is often too late. The otitis media is most likely to be in its later stages, with a greater possibility for complications to occur and reduces the chances of a simple and

¹²⁷ Ibid

Australian Indigenous Health*InfoNet*, Ear*InfoNet*, Review of ear health and Hearing, http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/our-review, last witnessed 19/3/11

¹²⁹ Ibid

N.Parbury, p79 Survival A history of Aboriginal life in New South Whales ed.2

¹³¹ Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

effective treatment. The earlier the otitis media is recognised, the better the chances of getting well.132

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Obviously, if Aboriginal people or parents with otitis media do not seek help at medical institutions, then they would not be able to obtain the treatment needed, and the otitis media will deteriorate or be left untreated. This, along with the other factors mentioned above, all leads to higher rates of otitis media among Aboriginal people. 133



¹³² Ibid

¹³³ Ibid

Prevention:

Although otitis media is difficult to prevent, there are measures which can be taken to reduce the risk of contracting otitis media. The prevention and management of otitis media requires the combined efforts of parents, teachers and the Aboriginal health worker. 134

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'A team approach to the treatment of otitis media is essential for the effective management of the problem' -NSW Board of Studies 135

The prevention of otitis media can be achieved through a few simple actions. These include some lifestyle changes, which can radically lower the chances of contracting otitis media. These include the following:

Do not smoke, and avoid areas where smoking is present to prevent passive smoking. Smoking will significantly increase the risk of contracting otitis media. Similarly, do not smoke around your child or let your child be continually exposed to passive smoking. 136

Some simple strategies to prevent passive smoking and therefore prevent the risk of otitis media include:

- Remove ashtrays from inside the house
- Put ashtrays out of reach of children
- Make it a rule that everyone smokes outside
- Quit smoking
- Wear a removable, old shirt just for smoking outside
- To keep smoke cravings at bay, use nicotine patches, gums or lozenges
- Assign certain areas where it is not allowed to smoke, for example in bedrooms, lounge room, kitchens and other closed spaces inside the house.
- Do not smoke in the car with children; it is against the law
- Ask a smoker not to smoke in a closed area, as non smokers also have the right to not passive smoke. 137 138

Smoking during pregnancy will also drastically increase the risk of your baby contracting otitis media, so do not smoke while you are pregnant. If you are a smoker, and are finding it difficult to quit

¹³⁴ National Indigenous English Literacy and Numeracy Strategy: Otitis Media Information for Aboriginal parents, caregivers and community members ¹³⁵ lbid

¹³⁶ Ibid

¹³⁷ NSW Health Department: Passive Smoking

¹³⁸ Sydney West Area Health Service, Live Life Well, Cancer Council NSW: Keeping Koori Kids Smoke-Free

smoking, ask your doctor, your local Aboriginal medical service or your local Aboriginal Health Education Officer for further advice. 139 140

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- Breastfeed your child. Breastfeeding has shown to decrease the likelihood of contracting otitis media in children, as it strengthens the baby's immune system, allowing it to fight against the bacteria and infections which cause otitis media. 141 142
- Do not allow a baby to sleep with a bottle in its mouth. This will cause otitis media to happen much more frequently as it can cause the eustachian tube to be blocked and cause otitis media. As mentioned before, it is best to breastfeed your child instead of bottle feeding, as breastfeeding will also avoid this particular problem.
- Improve personal hygiene. The cleaner you are, the less chances the bacteria have of surviving, growing and multiplying. 143 Improving personal hygiene can be achieved through a number of simple steps:
 - Proper hand washing in schools, at home and in the community to prevent the spread of respiratory illnesses in which otitis media originates from. 144 The appropriate occasions to wash your hands are:
 - . Before you touch food, including before you eat or prepare food
 - After changing a baby's nappy
 - After using the toilet 145

The steps to washing your hands properly are:

- 1. Wet your hands with water
- 2. Put soap on your hands
- 3. Wash your hands together for about 15 or 20 seconds
- 4. Rinse your hands thoroughly with water again
- 5. Dry your hands with a paper towel or shake them dry 146



National Indigenous English Literacy and Numeracy Strategy: Otitis Media Information for Aboriginal parents, caregivers and community members

¹⁴¹ Ibid

Patient Education Institute, X-Plain Tutorial, p7, X-Plain Otitis Media Reference Summary

Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at

Australian Indigenous Health/InfoNet, http://www.healthinfonet.ecu.edu.au/health-resources/promotion-

health topic[]=12&year start=2001&year end=2011&lid=14975&ref=34, last witnessed 19/3/11

Northern Territory Department of Health: Didya Wash Your Hands? No Germs on Me



Keeping the home clean and free of rubbish 147

** Allow screening for your child. Screening is essential in the prevention of otitis media as it detects hearing loss and otitis media. Early detection is always the best, as it is easier to treat and reduces the chances of complications and recurrent otitis media from

occurring. Your child's ears and hearing may not remain the same over time, so it is important that have repeat screens later as they grow older. It is crucial to continually monitor your child's hearing (by their response to sound), speech and language development. ¹⁴⁸ Also be aware of the signs and symptoms of otitis media. Should they be spotted in your child, bring them to your family doctor or your local Aboriginal health worker immediately for treatment.



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Teach your child how to blow their nose properly. Quite often, otitis media is contracted because the child cannot blow his/her nose properly. This is one of the reasons why otitis media affects children so much more than adults. When the eustachian tube is blocked, it needs to be unblocked by blowing your nose so that the germs and



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bacteria can come out as snort. However, if the child cannot blow his/her nose properly, then the eustachian tube will remain blocked with germs and bacteria, which will travel up to the middle ear, thereby causing otitis media. 149 150

Regular blowing of the nose will help prevent otitis media or stop further infections. 151 When you or your child finished blowing their noses, the used

¹⁴⁷ A. Wunungmurra, D. Howard, L. Fasoli, SNAICC Conference, Alice Springs, July 26-29, 2010: *Listening troubles and little kids*,

http://www.snaicc.asn.au/ uploads/fckpg//TUES 04 FASOLI Lyn HOWARD WUNGUNGUMARRA.pdf, last witnessed 20/3/11

NSW Health: Why does my baby need a hearing screen?

Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

¹⁵⁰ Information from Robyn Sutherland: Aboriginal otitis media health worker at Eleanor Duncan Aboriginal Medical Centre

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¹⁵² Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

tissues must be thrown away to maintain a clean environment and prevent germs and bacteria from spreading around. 153

Eat nutritious, healthy foods. A healthy diet is essential to a healthy life. Feeding yourself and your child with healthy and nutritious foods such as fruits, vegetables, milk, meat and fish will greatly reduce the possibility of contracting otitis media. 154 155 Healthy and crunchy foods and snacks are recommended. 156 The cookbook Kukumbat gudwan daga 'Really cooking good food' produced by the Fred Hollows foundation has healthy and nutritious recipes specifically for Aboriginal peoples, particularly when cooking for large numbers of people. 157



The above actions will not only prevent otitis media, they will also improve the overall health of Aboriginal people and therefore also prevent other diseases that are susceptible to Aboriginal people such as trachoma, diabetes and kidney diseases. 158



¹⁵³ NSW Health: Otitis Media

Information from Dave Ferguson: Otitis Media representative from Bulgarr Ngaru Aboriginal Medical Service Grafton

National Indigenous English Literacy and Numeracy Strategy: Otitis Media (OM) Middle ear infection Information for schools

Information from Liz: Worked for the Fred Hollows Foundation

Information from Dave Ferguson: Otitis Media representative from Bulgarr Ngaru Aboriginal Medical Service Grafton

Effects and Experiences of boriginal People with Otitis Media



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Otitis media and subsequent hearing loss and chronic hearing loss (CHL) have affected the lives of Aboriginal peoples to a great extent. The effects and experiences of otitis media many Aboriginal children and parents suffered through clearly illustrate the necessity for greater change and improvements in this area.

Each effect and experience of otitis media and subsequent chronic hearing loss is different, as the circumstances of each individual will affect each person differently, and each individual will react differently to their circumstances. That is, the impact of otitis media and subsequent chronic hearing loss is multi-factorial. However, there is a general recognised pattern of the implications of otitis media and subsequent hearing loss in Aboriginal people, which will be categorised into two sections below: educational and social implications.

NSW Health: Otitis Media Strategic plan for Aboriginal Children

Educational:

Otitis media and subsequent chronic hearing loss (CHL) mainly affects Aboriginal children, from infancy and onwards. Due to this fact, Aboriginal children are already placed at a severe disadvantage.

'If you can't hear, you can't learn'. – Linda Lewis Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

Hearing is the way in which language and speech is learnt, for without hearing it, you cannot speak, know, or understand it. The basis of language and speech development is founded on being able to listen, and is the foundation of the development of reading and writing skills. The ability to listen is vital in learning in any area. The educational implications will be categorised into two sections: Speech and Language Development, and School and Classroom Learning.



Language and speech development:

Otitis media and subsequent hearing loss will greatly impact on speech and language development, particularly if it is in the first few years of life. Aboriginal children, as mentioned before, have much higher rates of otitis media weeks after birth, and if not treated properly, will continue to persist through childhood, adolescence and adulthood if it becomes chronic. This will have negative consequences on the language and speech development of the Aboriginal child. 160 161

By the time children say their first word, they have been listening to the way we talk for about a year.'- NSW Health SWISH program 162

Hence, the first year is of extreme importance as it is the year when children first develop their basic skills of 'localising sounds, discriminating important sounds from others, and how to use those sounds to communicate'. 163 Hearing loss during this critical year of their life may prove fatal, as children may 'respond by using incorrect sounds, or miss out on sounds altogether because they have not heard them' 164. Language is learnt passively by hearing it, however, children with hearing loss is prevented from effectively learning it this way. Thus, a barrier for normal speech development is created, thereby causing delays in language development. 165

Children with otitis media prior to going to school experience greater 'difficulties with articulation of words and connected speech, use of word endings, auditory discrimination, sound blending and auditory closure' 166 and 'processing skills, phonological awareness, short-term auditory memory skills, and auditory sequential memory skills.'167

It is important to note, however, that the degree of hearing loss experienced by Aboriginal children varies depending on the mildness and the number



of episodes of otitis media experienced, though 'research suggests that three or more episodes of otitis media before the age of three may seriously affect language development.'168

¹⁶⁰ J. Sherwood, p7, Guidelines for the prevention and control of otitis media in Aboriginal children within Aboriginal and Islander Health Worker Journal Volume 21 Number 1 Jan/Feb 1997

Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

NSW Health: I chose not to have my baby's hearing screened. What do I need to know?

NSW Board of Studies: p8-15, Otitis Media and Aboriginal Children

¹⁶⁴ Ibid

¹⁶⁵ Ibid

¹⁶⁶ Ibid

Australian Indigenous HealthInfoNet, EarInfoNet, Review of educational and other approaches to hearing loss among Indigenous people, http://www.healthinfonet.ecu.edu.au/other-health-

r/reviews/our-review-education, last witnessed 19/3/11

Hearing loss frequently fluctuates, which means that sometimes they may have normal hearing levels, but other times, they may not be able to hear properly. As a result, if the same word is heard during different times, that word will sound different. Thus, different forms of the same word is heard, leading to 'variable language input', which further encumber language and speech development for Aboriginal children. Therefore, hearing loss will cause speech and language delays, which will then affect their learning, school performance and educational outcomes later in life.



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¹⁶⁹ Ibid

J.S. Stenton, p1, The Long Term Effects of Fluctuating, Conductive Hearing Loss Caused by Otitis Media with Effusion on Learning and Behaviour for Adolescent Students

School and classroom learning:

School and classroom learning is where conductive hearing loss is most notably affected. The difference between Aboriginal children with otitis media and those without in 'language development, reading, speech, articulation and behaviour' 171 is evidence of the impact of conductive hearing loss. In the classroom, Aboriginal children with otitis media and subsequent hearing loss are at the greatest disadvantage, even more so than non Indigenous children with hearing loss, and experience considerable learning difficulties, delays and education regression. 172

The reason for this is that not only do Aboriginal children with hearing loss have to suffer from the problems normally associated with otitis media and subsequent hearing loss, they have the added

difficulty of having to adjust to a culturally different or alien environment at school that is different from their own home environment. This difficulty is compounded when Standard Australian English (SAE) is an Aboriginal child's second language, as they speak their own language or Aboriginal English at home. Some sounds in Standard Australian English are not recognised in an Aboriginal child's own language, and which would make it even harder to distinguish the different sounds. 173 For example, the lower intensity sounds are much harder to pick up such as t,d, th etc are the ones that are present in Standard English but are generally not recognised in some Aboriginal languages. 174



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Another hindrance to this is when Aboriginal English may not be understood or valued at school. Hearing loss creates a 'communication blockage', which is enlarged by the cultural and language differences between the classroom and home environment. 175

These difficulties encountered in learning and language development have a negative effect on an Aboriginal child's ability to read and write.

The Australian school system 'reflects a literate tradition' 176, with a strong focus on the skills of literacy and numeracy. The process of learning in a school environment is dependent on language and communication skills, such as listening skills. Consequently, an Aboriginal child who is or has experienced hearing loss will find learning in a school environment challenging, with its cultural differences, including language differences and emphasis on listening and language skills. For

NSW Board of Studies: p8-15, Otitis Media and Aboriginal Children 172 Ibid

¹⁷³ Ibid

WA department of education, conductive hearing loss do you hear what I hear? Living and learning with conductive hearing loss/otitis media kit

Australian Indigenous HealthInfoNet, EarInfoNet, Review of educational and other approaches to hearing loss among Indigenous people, http://www.healthinfonet.ecu.edu.au/other-health-

ons/ear/reviews/our-review-education, last witnessed 19/3/11

example, a simple spelling test in class would very demanding for an Aboriginal child with otitis media. 177

As a result, the child would concentrate intently on lip reading to understand what the teacher is saying. Obviously, this method is applicable only when the teacher's lips are in sight. Once the teacher turns around to write something on the board and continues talking, the child will have no clue as to what the teacher is saying. Or, the child will concentrate very hard to try and listen.

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This level of concentration required for a child to lip read and listen will prove mentally exhausting. Subsequently, the child will constantly experience fatigue, frustration and anger from the intense concentration required. ¹⁷⁸ ¹⁷⁹

Over time, constant repeated mental exhaustion will lead to a complete disinterest in schooling and classroom learning and therefore they will attend school on an irregular basis. Being regularly absent from school will ultimately lead to poor school performance. On the occasions when they do attend school, the school and classroom environment will become even more unfamiliar due to their absences. Hence, this compounded unfamiliarity will lead to less involvement in classroom activities, and a greater disinterest and unwillingness to attend school. ¹⁸⁰

As a result of truancy, a dislike of school and school failure, an early school dropout will follow. This will lead to reduced unemployment opportunities, and this difficulty in trying to obtain employment will subsequently stifle their attempts to seek and maintain employment, making petty crime and welfare dependence seem much more attractive. 181

Unfortunately, some teachers do not realise or recognise hearing loss in a child, and would therefore assume that the child is naughty, rebellious, disruptive and does not pay attention in class, when in fact, the cause of this assumption is hearing loss.

It is therefore crucial to let the teacher know if your child suffers from otitis media or hearing loss, so they can implement the appropriate strategies and work together with your child, giving them the attention and support needed. 182

¹⁷⁸ Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

¹⁷⁹ Information from Robyn Sutherland: Aboriginal otitis media health worker at Eleanor Duncan Aboriginal Medical Centre

¹⁸⁰ Australian Indigenous Health*InfoNet*, Ear*InfoNet*, *Review of educational and other approaches to hearing loss among Indigenous people*, http://www.healthinfonet.ecu.edu.au/other-health-

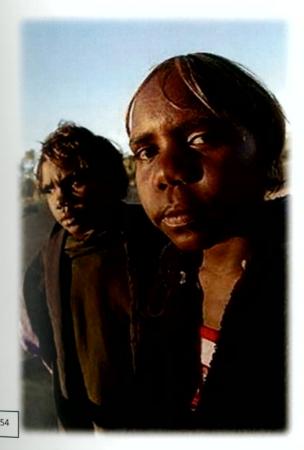
conditions/ear/reviews/our-review-education, last witnessed 19/3/11 NSW Health: Otitis Media Strategic Plan for Aboriginal Children

¹⁸² Information from Robyn Sutherland: Aboriginal otitis media health worker at Eleanor Duncan Aboriginal Medical Centre

¹⁷⁷ Ibid

Social:

Aboriginal children not only suffer from the negative implications for speech, language and educational development brought about by otitis media and subsequent chronic hearing loss, they are also deeply affected by it through child and behavioural developments and social and emotional wellbeing. The ability to communicate is crucial to social and emotional wellbeing.



One of the biggest social problems that arise from otitis media and subsequent hearing loss is communication. Language is the main medium through which we communicate and therefore connect to each other. Hence without language, or means of communication, it is difficult to have regular social interaction, impacting on a child's social and emotional wellbeing. Language (Aboriginal languages) to Aboriginal people also encompass more than just as a means of communication. It is also central to their identity and culture, as it signifies where they are from. Their culture, traditions and oral histories and stories are expressed through their language. 184 Therefore, the loss of language may also imply the loss of cultural identity, heritage and belonging, as 'for Aboriginal children, diminished auditory experiences can affect opportunities for learning about culture, law, relationships etc'. 185

Another social problem arising from chronic

hearing loss is the social and emotional wellbeing and the behavioural development of a child, such as in the area of pragmatics. Pragmatics 'relates to the use and functions of language for communication. Pragmatic awareness is the knowledge of conversational rules and includes both verbal and non-verbal aspects' 186. Children with hearing loss will experience problems with pragmatics, such as 'entering into a group, requesting, responding and taking turns, initiating conversations, understanding subtle social rules and accepting others' points of view and others'

Australian Indigenous Health/InfoNet, EarInfoNet, Review of educational and other approaches to hearing loss among Indigenous people, http://www.healthinfonet.ecu.edu.au/other-health-conditions/ear/reviews/our-review-education, last witnessed 19/3/11

¹⁸⁴ Victorian Aboriginal Corporation for languages: http://www.vaclang.org.au/
185 WA department of education: Do you hear what I hear? Living and learning with Conductive Hearing Loss/otitis media kit

WA department of education: Do you hear what I hear? Living and learning with Conductive Hearing Loss/otitis media kit

feelings' 187 that will negatively impact on a child's social skills, such as not understanding or exercising the 'subtleties and unwritten rules of social exchange' 188.

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The development of a child's 'world view, biases, prejudice, innuendo, taboos, social behaviours, values, beliefs and attitudes' 189 is also affected through the child's inability to interpret the verbal behaviours of people, which would result in the 'limited knowledge and understanding of day to day events in home and school' 190. Again, this would add to the social and emotional challenges and skills a child with hearing impairment would face.

The lack of social skills and understanding and the inability to communicate effectively will lead to the child experiencing feelings of 'frustration (at themselves and their peers), annoyance, anger, irritation, and aggression'191. They will often find social interaction taxing and frustrating due to the above factors such as speech difficulties and lack of social skills, and would therefore simply avoid and refrain from social interactions,



resulting in social isolation and the associated behaviours of introversion, quietness and attention deficits. This would eventually result in the behavioural problems of 'irritability, disobedience, distractibility, disruption and overactivity.' 192 Consequently, this would lead to them being labelled as 'anti-social', and would be alienated from their peers at school. 193

This is exacerbated by bullying within schools. As some children with hearing loss cannot speak properly as they cannot hear, they are ridiculed at school, which discourages them from speaking, and would therefore isolate them from their peers even more. This will undoubtedly affect a child's social and emotional wellbeing, leading them to experience feelings of being victimized, shame and low self esteem. 194

Overall, this will cultivate a strong dislike of school, therefore promoting truancy and an early departure from school. Consequently, this may lead to an inability to retain employment,

¹⁸⁷ Ibid

¹⁸⁸ Ibid

Board of Studies Otitis media and Aboriginal children

¹⁹⁰ Ibid

¹⁹¹ Ibid

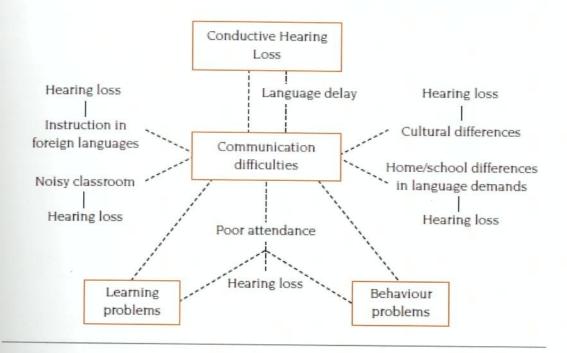
¹⁹² Australian Indigenous HealthInfoNet, EarInfoNet, Review of educational and other approaches to hearing loss among Indigenous people, http://www.healthinfonet.ecu.edu.au/other-healthnditions/ear/reviews/our-review-education, last witnessed 19/3/11

¹⁹³ Ibid

¹⁹⁴ Information from Linda Lewis: Aboriginal otitis media co-ordinator at Daruk Aboriginal Medical Service at Mt Druitt

dependency on the welfare system, early pregnancy, substance abuse, crime, the justice system entrapment and ultimately, may result in deaths in custody. ¹⁹⁵

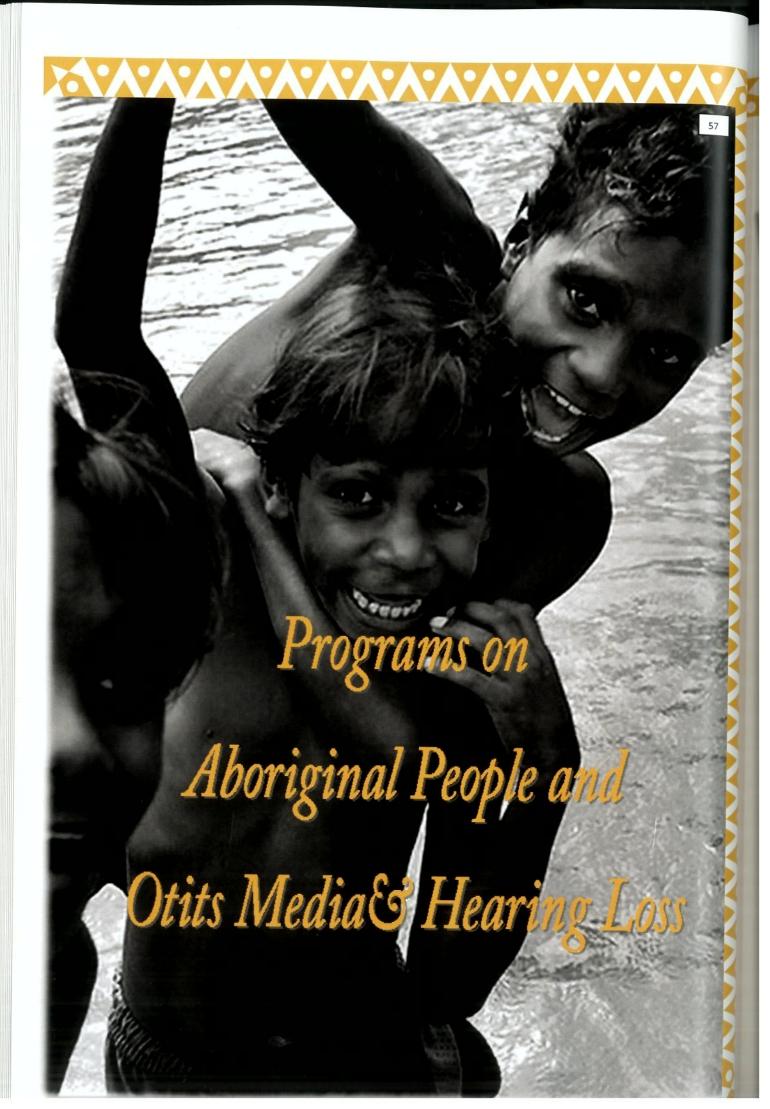
The diagram below illustrates the implications of otitis media and conductive hearing loss:



Source from Otitis Media and Aboriginal Children, NSW Board of studies

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NSW Health: Otitis Media Strategic Plan for Aboriginal Children





In response to the absurdly high rates of otitis media within Aboriginal peoples and the serious consequences of it, various programs and strategies have formed to either prevent or manage otitis media in Aboriginal peoples. Most programs and strategies are specifically targeted at Aboriginal peoples, while some are available for both the Indigenous and non Indigenous population. Many of these programs are reliant on the availability of funding and qualified staff. Below are just a few programs and strategies that had been or are being implemented across Australia:

New South Whales:

Aboriginal NSW Otitis Media Screening Program:

The Aboriginal NSW otitis media screening program is a state-wide initiative developed under the Aboriginal Affairs Two Ways Together

plan. 196 This program is implemented by the NSW Department of Health.



The aim of the Aboriginal NSW Otitis Media Screening Program is to 'identify those experiencing repetitive and chronic episodes of otitis media and provide them with appropriate health and educational support'.¹⁹⁷

This program provides free otitis media screening services to Aboriginal children between the ages zero to six through their local Area Health Service or Aboriginal Community Controlled Health Service to ensure early detection of otitis media. ¹⁹⁸ All follow ups and referrals are included. Additionally, this program has an educational objective as well; to 'provide information to caregivers and communities about otitis media and its impacts' through an 'otitis media awareness kit' which is given to 'people who work in Aboriginal communities'. ²⁰⁰ The program furthermore assists and provides support for school children with otitis media through the employment of itinerant teachers (teachers who specialise in hearing) in 'selected' primary and secondary schools. In schools where there is a large enrolment of Aboriginal children, regular class teachers are provided with information and training in otitis media. ²⁰¹

Contact Details:

NSW Department of Health Telephone: (02) 9391 9000

TTY: (02) 9391 9900 Fax: 02 9391 9101

ARTD Consultants: Evaluation of the Aboriginal otitis media screening program. Final Report. Report to the NSW Department of Health 12 June 2008, http://www.health.nsw.gov.au/pubs/2008/pdf/otitis report.pdf, last witnessed 9/3/11

¹⁹⁷ Australian IndigenousHealthInfoNet, Outline of the NSW Otitis media screening program for 0-6 year old Aboriginal children,

http://archive.healthinfonet.ecu.edu.au/html/html community/ear health community/programs projects/huntley screen.pdf, last witnessed 9/3/11

NSW Department of health: Ear infection screening proves valuable for young Aboriginal children, http://www.health.nsw.gov.au/news/2005/20050731 00.html, last witnessed 9/3/11

¹⁹⁹ Australian IndigenousHealthInfoNet Outline of the NSW Otitis media screening program for 0-6 year old Aboriginal children,

http://archive.healthinfonet.ecu.edu.au/html/html community/ear health community/programs projects/huntley screen.pdf, last witnessed 9/3/11

²⁰⁰ Ibid

²⁰¹ Ibid

SWISH:

SWISH stands for the State-Wide Infant Screening for Hearing program. SWISH is run and funded by New South Whales Health, and is available for babies who are born within New South Whales. This program is offered to all babies, including both Aboriginal and non Aboriginal babies, however, Aboriginal babies and parents will benefit greatly from the program. 202

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The aim of SWISH is to 'identify all babies born in NSW with significant permanent bilateral hearing loss by 3 months of age, and for those children to be able to access appropriate intervention by 6 months of age.'203

SWISH offers universal screening for hearing to all newborn babies, and requires parental consent prior to the screening test taking place. There are two screens involved. The screening process is:

While your baby is sleeping, 'small sensor pads' are placed on your baby's head and shoulders for a brain scan response, and 'soft clicking sounds' are played 'into your baby's ears through an earphone'. The sensors will pick up signals which 'record your baby's response to the sounds', thereby testing their hearing levels.²⁰⁴ A repeat screen (the second screen) may be required if your baby doesn't pass the initial screen. It is important to note that the need for a second screen does not confirm that your baby has hearing loss; there are other factors and reasons for a second screen, such as 'fluid or a blockage in your baby's ear after birth.' 205 206

However, if the results are still not definitive from the second screening; your baby will be referred to an audiologist for a diagnostic assessment. If your baby is found to have hearing loss, another referral will be made to one of three children's hospitals in New South Whales (Sydney Children's Hospital, Westmead Children Hospital or St John Children's Hospital) for specialist services. 207

SWISH provides a SWISH Travel assistance scheme to cater for people who 'live more than 100km away from the hospital they have been referred to'. This enables Aboriginal parents who live in remote and rural areas of New South Whales greater convenience in accessing appropriate ear health care for their babies. 208

Contact Details:

NSW Department of Health Telephone & fax

Telephone: (02) 9391 9000 TTY: (02) 9391 9900

Fax: 02 9391 9101

SWISH:

Hotline: 1800 551 175

Website:

www.health.nsw.gov.au/initiatives/swish

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Information from Sandy Ford: Orange Community Health Centre, worked under SWISH program NSW Health; Hearing loss and your baby, an information resource for families in NSW,

v.health.nsw.gov.au/pubs/2007/pdf/hearing_baby_a4.pdf last witnessed 5/3/11

NSW Health; Why does my baby need a hearing screen

Information from Sandy Ford: Orange Community Health Centre, worked under SWISH program NSW Health; Why does my baby need a diagnostic assessment

Fruits and Vegetables Program:

The fruits and vegetables program is from the Bulgarr Ngaru Aboriginal Medical Service in the Grafton area, and has been continuing for seven years with great success. This program is available at the Bulgarr Ngaru Aboriginal Medical Service, and is specifically targeted at Aboriginal families to improve their health. ²⁰⁹

The fruits and vegetables program is designed to encourage Aboriginal families to eat healthily and nutritiously to not only prevent otitis media and improve their ear health, but also to improve their general health and wellbeing. 210

This program provides Aboriginal families with packs of fruit and vegetables for twelve months. After twelve months, they are taken off the program to allow other Aboriginal families on the waiting list the chance to be on the fruits and vegetables program. Aboriginal families are encouraged to keep on eating fruits and vegetables after they are off the program to continue to maintain good health and prevent otitis media. ²¹¹

Contact Details:

Bulgarr Ngaru Medical Aboriginal Corporation

131-133 Bacon Street PO Box 1256 Grafton NSW 2460 Telephone & fax:

Telephone: (02) 6643 2199

Fax: (02) 6643 2202

Email: info@bulgarr.com.au



 $^{^{209}}$ Information from Dave Ferguson, otitis media representative at Bulgarr Ngaru Aboriginal Medical Service

²¹¹ Ibid

Can't hear? Hard to learn program:

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The 'Can't hear? Hard to learn' program is created and run by the Aboriginal Health staff of Greater Southern Area Health Service in partnership with the Katungul Aboriginal Medical service. This program covers the areas Eurobodalla, Bega Valley, Monaro and Southern Tablelands Clusters in New South Whales. 212 This program is intended for the Aboriginal population; it is designed specifically to 'address the issue of otitis media in Aboriginal children' in the Greater Southern Area.

The aim of this program is to 'inform and educate Aboriginal communities about otitis media, screen children for the condition, make referrals where necessary and support with treatment, while working with mainstream health professionals.' 214



The 'Can't hear? Hard to learn' program was implemented by first establishing an 'outreach clinic at Goulburn Base Hospital which is regularly attended by an ENT specialist'. Therefore, with the outreach clinic, the program can provide referrals from the 'assessment of children's ear health' 215, surgery and other methods of the management and treatment of otitis media and the monitoring and routine follow ups of children who were prone to otitis media. 216

Aside from the assessment, treatment, management and monitoring of otitis media, this program also incorporates educational outcomes as well by educating 'parents, teachers and children with ear disease' and also promoting 'cultural awareness training for non-Aboriginal health workers involved in the program'. 217

Contact Details:

Greater Southern Area Health Service

PO Box 1845 (34 Lowe Street) Queanbeyan NSW 2620

Telephone &fax: Phone: (02) 6128 9777 Fax: (02) 6299 6363

Email: corporate@gsahs.health.nsw.gov.au

Katungal Aboriginal Health Service

26 Princes Highway Narooma NSW 2546 Telephone & fax:

Phone: 4476 2155, 4476 2772 Fax: 4476 1638, 4476 1967 Email: katungul@acr.net.au

Australian Resource Centre for Healthcare Innovations, Can't hear, Hard to Learn Greater Southern Area Health Service, http://www.archi.net.au/e-library/primary/community/chll last witnessed 5/3/11

²¹⁴ Ibid 215 Ibid

²¹⁶ Ibid

²¹⁷ Ibid

BBCWC program:

The BBCWC program stands for the Breath, Blow, Cough, Wash& Chew program, and is based on the original Northern Territory BBC program (seen below p50), except it is extended to incorporate washing (W) and chewing (C). Hand washing and chewing were both included to prevent cross infections, to promote eating crunchy, healthy foods and to exercise and move the jaw, as this assist in the 'drainage of the Eustachian Tube' 218

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The BBWC program is formed by the Durri Aboriginal Corporation Medical Service in Kempsey NSW on Dunghutti Nation, which also covers its surrounding areas such as West and South Kempsey, South West Rocks, Crescent Head, and Bellbrook. Like the BBC program, the BBCWC program is implemented in schools. ²¹⁹ Like the Northern Territory BBC program, the BBWC program is available for everyone in the schools where it is implemented; however, it is chiefly aimed more at Aboriginal children aged three to eight. ²²⁰

The aim of this program is the same as that of the Northern Territory BBC program, in that it is 'designed to educate students in the breathe, blow, cough, wash and chew strategies of blowing their noses to clear their ears'. ²²¹

The steps of the BBWC are as follows:

- I blow my nose
- 2. I check if it's empty
- 3. I have 5 breaths
- 4. I have 2 strong coughs
- 5. I do my jumps: star, rocket or wriggle
- 6. I take 5 breaths and do 2 strong coughs
- 7. I have a run on the spot
- 8. I take 5 breaths and do 2 strong coughs and that's it
- 9. I wash my hands really well
- 10.and then I have a crunch snack²²²

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Contact Details:

Durri Aboriginal Corporation Medical Service:

1 York Land Kempsey NSW 2440

Telephone &fax

Phone: 6562 1604, 6562 6733, 6562 4919

Fax: 6562 3371, 6562 7069 Email: Iclay@durri.org.au

²¹⁸ The national Symposium for Aboriginal and Torres Strait Islander Ear and Hearing Health October 2010, http://www.naccho.org.au/Files/Documents/BreatheBlowCoughWash2007 V3.pdf, last witnessed 5/3/11

Indigenous education resource update Issue 3 April 2010, *Durri Aboriginal Corporation Medical Service BBWC*, www.acsa.edu.au, last witnessed 6/3/11

²²² Australian Indigenous healthinfonet, *the breath blow cough wash and chew program [A3 poster]*, http://www.healthinfonet.ecu.edu.au/uploads/resources/16498 bbc-program-poster-a3-final.jpg last witnessed 3/6/11

Northern Territory:

BBC program:

The BBC program stands for the Breathing, Blowing, Coughing program, and can also be known as the 'Healthy Kids Program'. This program is implemented in schools and used by classroom teachers 'throughout the Northern Territory', and is 'strongly recommended that schools adopt this program'. There are varying forms of the BBC program within implemented within different schools, but they all essentially have the same purpose and produce the same effects. ²²³ ²²⁴ The BBC program is mostly aimed at Indigenous children in particular, though it is available to all children, including both Indigenous and non Indigenous; however will benefit Aboriginal children in improving and maintaining their general health, as well as the prevention of otitis media and subsequent hearing loss.



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The main aims of the BBC program are to allow children to blow their noses properly to clear their lungs and ears to improve ear health by lowering the possibility of colds and flu in which otitis media can originate from. ²²⁵ ²²⁶ Whilst doing this, it also provides an opportunity for children to learn how to blow their noses properly, and to educate them about the significance of blowing their noses properly. ²²⁷ Teachers also utilise this program to improve the child's 'attention span, school attendance, listening and literacy skills and concentration'. ²²⁸ Although this program has not been 'scientifically proven to reduce ear disease and hearing loss', it is of the 'general opinion that it is good for the ears, lungs and general health'. ²²⁹

Department of Health and community service, Department of employment education and training: p31-32, Healthy School aged kids The Northern Territory School-Age Child Health Promotion Program Manual for Remote Communities 2nd edition (2007)

M. Audrey, Abstract of Helping Kids to Hear Better: Breathing, Blowing, Coughing (B.B.C) Programme within Aboriginal and Islander Health Worker Journal Volume 16 Issue 4 (July/Aug 1992).

Department of Health and community service, Department of employment education and training: p31-32, Healthy School aged kids The Northern Territory School-Age Child Health Promotion Program Manual for Remote Communities 2nd edition (2007)

²²⁸ Ibid

As mentioned above, the BBC program has many different variants amongst schools; therefore there is no set method of doing it, however, the key points and exercises are:

- 1. Nose blowing, (this may take more than one tissue) followed by five deep breaths three coughs.
- 2. Vigorous (aerobic) exercise for about two to three minutes (this may include star jumps, running, 'funny running' with hands on the floor to aid postural drainage)
- 3. Step 1 and 2 above are repeated two further times.

4. Wash and dry face and hands. 230

This exercise will take around fifteen to twenty minutes in the morning. All tissues used must be disposed of and hands and faces washed properly to prevent cross infection from nose and ear secretions.²³¹

For more information:

Ear Resource Book, by the NT Aboriginal Hearing program- available from Batchelor Institute of Indigenous Tertiary Education

Phone: 1800 677 095

Healthy Kids, A School Exercise Program-available from the Maningrida Community Education Centre, PMB 67, Winnellie, NT 0822

Phone: 8979 5950



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²²⁹ Department of Health and community service, Department of employment education and training: p31-32, Healthy School aged kids The Northern Territory School-Age Child Health Promotion Program Manual for Remote Communities 2nd edition (2007)

²³⁰ Ibid

²³¹ Ibid

Laynhapuy Homelands Health Workers- Ear Health Education:

The Ear Health Education program started in May 2009 and went on for about a year before ending in June 2010. However, due to the successfulness of this program, it is planned that it will be implemented again in the future. 232 233 This program is funded by the Laynhapuy Homelands Association, which is similar to the Aboriginal medical service in the Laynhapuy Homelands area. As the name suggests, the program covers the Laynhapuy Homelands region in North East Arnhem land with the Aboriginal Yolngu peoples. The Laynhapuy Homelands region is inclusive of twelve Aboriginal communities with up to around one hundred and fifty people in each community. The Aboriginal peoples are connected by kinship, cultural and family ties even though they are scattered over this region. ²³⁴ ²³⁵ The ear health education program is specifically aimed at the Aboriginal population in the Laynhapuy Homelands region.

This program has several goals, including 'working with health workers to provide training and support', but mainly it aims to increase 'understanding of ear health, how germs infect the ear, the ear structure, consequences of ear disease, treatment and antibiotics.'. It also seeks to encourage whole communities such as adults and Elders to be involved in the program. ²³⁶



Australian Indigenous HealthInfoNet:Laynhapuy Homelands Health Workers-Ear Health Education,

p://www.healthinfonet.ecu.edu.au/health-resources/programs-projects?pid=568, last witnessed 5/3/11 Information from Dr Alyssa Vass: worked for the Laynhapuy Homelands Health Workers-Ear Health Education lbid

Australian Indigenous HealthInfoNet:Laynhapuy Homelands Health Workers-Ear Health Education,

^{://}www.healthinfonet.ecu.edu.au/health-resources/programs-projects?pid=568, last witnessed 5/3/11 Information from Dr Alyssa Vass: worked for the Laynhapuy Homelands Health Workers-Ear Health Education

The ear health education program is run by health educators who go out into Aboriginal communities to educate Aboriginal peoples about ear health by holding educational and workshop sessions. These sessions are predominately dialogue based, and are all conducted in the local Aboriginal language; Yolngu Martha, which is the language of the Aboriginal peoples of North East Arnhem land, to provide better understanding. Around three to four people attend each session, although occasionally up to fifteen people may be present. As mentioned before, this program encourages the whole community to be involved, and therefore welcome parents, adults, children, Elders, health workers and all other members of the community to attend. 237 238

Contact Details:

Dr Alyssa Vass

Aboriginal Resource and Development Services Inc (ARDS)

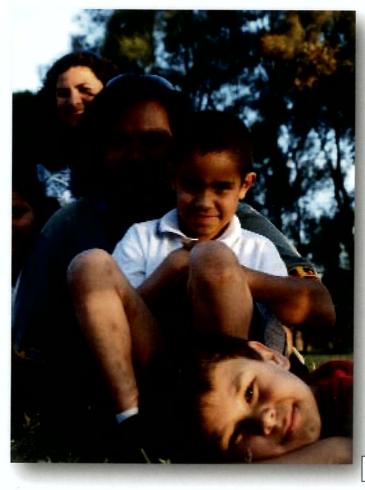
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²³⁷ Ibid

²³⁸Australian Indigenous HealthInfoNet:*Laynhapuy Homelands Health Workers-Ear Health Education*, http://www.healthinfonet.ecu.edu.au/health-resources/programs-projects?pid=568, last witnessed 5/3/11

Sunrise Ear Health Program:

The Sunrise Ear Health
Program is also known as the
'Aural Health program', and is
run by the Sunrise Health
Service Aboriginal
Corporation with funding
from the Commonwealth and
Northern Territory
governments and the Honda
Foundation. This program is
specific to the Northern
Territory, and reaches out to
remote Aboriginal



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communities within the Sunrise Health Service communities. Its head office is based in Katherine and branches of Sunrise health service communities are in place at: Darwin, Katherine, Weemol, Bulman, Mataranka, Wugularr, Manyallaluk, Barunga, Jilkminggan, Minyerri, Urapunga and Ngukurr. ²³⁹ ²⁴⁰ The ear health program is targeted to improve the ear health of the Aboriginal population.

The aim of the ear health program is to 'explore and work towards addressing prevention and rehabilitation of hearing disability. The program seeks to reduce disability associated with early childhood middle ear disease within the Sunrise Health Service communities'²⁴¹. The program also 'focuses on the early detection and intervention of ear disease and/or hearing loss in children in Sunrise Health Service communities.'²⁴²

The implementation of the program has many parts, including:

Travel to each community with aural health equipment for growth and assessments for children under five are provided through otoscopy ear health assessments, hearing screens, follow ups and referrals. It also trains staff and increases parent/carer capacity to manage children with otitis media, such as the promotion of ear tissue spears, BBC program, nose blowing and hand washing, along with supporting immunisation programs against otitis media and liaising with different organisations and centres such as NT Hearing Service, Australian Hearing Service and women's centres to reduce otitis media. For example, this program 'liaise with child care and women's centres and schools to plan health promotion activities about ear health', and liaising with 'each clinic's manager to arrange screening for children under 5 years old'. In addition, this program identifies and supports children with otitis media by collaborating with education authorities and by promoting early language learning by integrating literacy programs 'directed at language learning within

²³⁹ Sunrise Health Service: ear health program brochure, <u>www.sunrise.org.au/sunrise/earhealthbrochurepdf</u>, last witnessed 5/3/11

Information from Karen Duxfield: Aural Health Coordinator, Sunrise Health Service

Ibid

²⁴²Sunrise Health Service: ear health program brochure, <u>www.sunrise.org.au/sunrise/earhealthbrochurepdf</u>, last witnessed 5/3/11

communities'. This program also provides advice on nutrition for Aboriginal families, as nutrition plays a major role in the prevention of otitis media.²⁴³

Contacts details:

Sunrise Health Service

Pandanus Plaza Level 1, 25 First Street Katherine NT 0851 Telephone& fax:

Ph: (08) 8971 1120 Fax: (08) 8971 2511



²⁴³ Karen Duxfield: Aural Health Coordinator, Sunrise Health Service

Western Australia:

Telethon Speech& Hearing 'The Earbus' Mobile Children's Ear Clinic:

The Ear Bus program is implemented by Telethon Speech & Hearing Centre for Children, and receives its funding from Variety WA, Telethon Speech & Hearing and the Office of Aboriginal health. 244 This program covers the 'Perth metropolitan area; Swan Education District', the 'South -West region of Western Australia', and possibly the 'Cannington Education District', depending on the availability of future funding. 245 This program is specifically aimed at reducing otitis media in Aboriginal children, especially in communities where there are high incidences of otitis media. 246

The aim of this program is to 'identify children with ear health problems early so that appropriate treatment can be implemented and managed to achieve better long term outcomes for both health and education'247



The earbuses are 'a network of specially modified buses which travel to selected primary schools, kindergartens and child care centres providing a free hearing and ear screening service for Indigenous children'. 248 This provides a 'complete primary care pathway and specialist services for Indigenous children'. 249 In each ear bus, trained hearing screeners with proper audiological equipment, a doctor, nurse and an Aboriginal Outreach Worker provide follow up services for the children who were detected to have otitis media when screened. ²⁵⁰ Should the child require further treatment, they are seen either seen by the doctor at their school or at the ENT clinic at the Swan Districts Hospital which operates once a month. A further referral to the ENT specialist may be

²⁴⁴ Telethon Speech and Hearing, *Telethon Speech & Hearing 'the Earbus Mobile Children's ear clinic'*, from Lara Shur: manager of Earbus program

Australian Indigenous HealthInfoNet, Telethon Speech& Hearing Centre for Children (WA), Variety WA mobile children's ear clinics-'ear bus' program, http://www.healthinfonet.ecu.edu.au/health-

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²⁴⁹ Ibid

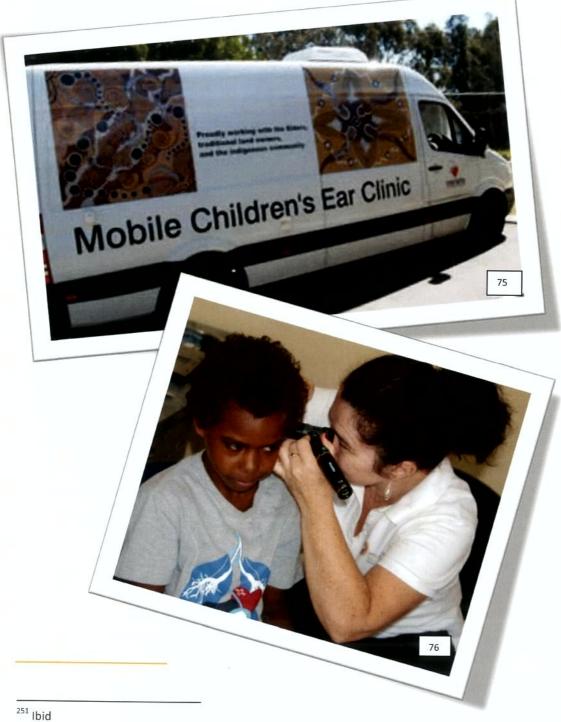
²⁵⁰ Ibid

required. ²⁵¹ As mentioned before, a significant issue contributing to high rates of otitis media in Aboriginal people is the lack of access to appropriate health care. The Earbus program sought to break this barrier by 'bringing screening and medical treatment directly to the patient' 252.

Contact Details:

Telethon Speech and Hearing

Audiology Reception Ph: (08) 9387 9831



²⁵² Ibid

Victoria:

Ear Health Screening Project:

The Ear Health Screening project is funded by the Commonwealth government and is implemented by both the Royal Victorian Eye and Ear Hospital and the Aboriginal Health Branch. The Aboriginal health branch overseas the program and keep records of the results, along with helping with the relationship between the Hospital staff and Aboriginal people. The Aboriginal community is very involved with every step of the



program by assisting in its development. This program is specifically for Aboriginal peoples, and is available in two areas in Victoria: the Shepparton area and the Dandenong area. ²⁵³

The aim of the Ear Health Screening project is to provide screening for Aboriginal peoples, focusing on 'early prevention and intervention', and to educate teachers and Aboriginal parents and communities about otitis media and where to go after discovering that they had contracted otitis media. ²⁵⁴ ²⁵⁵

The Ear Health Screening project provides free screening for Aboriginal peoples who come into either one of the two braches at Shepparton or Dandenong. After screening, posters and other ear health education materials are distributed as part of the health promotion aspect of the project. ²⁵⁶

Contact Details:

The Royal Victorian Eye & Ear Hospital

32 Gisborne Street East Melbourne Victoria 3002 AUSTRALIA **Telephone &fax**

Phone: + 613 9929 8666

TTY: 9929 8052 Fax:+ 613 9663 7203



²⁵³ Kate Berry: Aboriginal Health Branch worker, Department of Health Victoria

Eye and Ear Hospital: http://www.eyeandear.org.au/aboutus/remote/visit.asp, last witnessed 17/3/11

Queensland:

Deadly Ears, the Queensland state-wide Aboriginal and Torres Strait Islander Ear Health Program:

The Deadly Ears program is implemented by Queensland Health, and is a 'state-wide service' that is 'based within the Children Health Services District'. ²⁵⁷ This program is targeted at Indigenous children to reduce the rates of otitis media.

The aim of the Deadly Ears program is to 'reduce the rates of chronic ear disease among Aboriginal and Torres Strait Islander children in regional, rural and remote communities

across Queensland'²⁵⁸ and to 'raise awareness and understanding of the impact of ear disease in children, and treat it where it occurs.'²⁵⁹





The Deadly Ears program improves the health and wellbeing of children and young people by preventing and managing ear disease through working with Queensland's urban, rural and remote communities. ²⁶⁰ This program involves engaging, consulting and planning with the community, building community capacity and developing the local workforce to 'develop a sustainable ear health service in regional, rural and remote Aboriginal and Torres Strait Islander communities' ²⁶¹ ²⁶² In addition, the Deadly Ears

²⁵⁷ Queensland Health: *About Deadly Ears*, http://www.health.qld.gov.au/deadly_ears/html/about.asp, last witnessed 6/3/11

²⁵⁸ Ibid

Australian Indigenous HealthInfoNet, *Deadly Ears, the Queensland state-wide Aboriginal and Torres Strait Islander Ear Health Program*, http://www.healthinfonet.ecu.edu.au/health-resources/programs-projects?pid=630, last witnessed 3/6/11

²⁶⁰ Queensland Health: *Deadly Ears From Dust to Development*,

http://www.health.qld.gov.au/atsihealth/documents/deadly_ears/pdf, last witnessed 6/3/11

Queensland Health: About Deadly Ears, http://www.health.qld.gov.au/deadly_ears/html/about.asp, last witnessed 6/3/11

²⁶² Queensland Health: Deadly Ears From Dust to Development,

http://www.health.qld.gov.au/atsihealth/documents/deadly_ears/pdf, last witnessed 6/3/11

program 'promotes a range of prevention strategies, improving access to new and existing treatments', and also encourages health education. 263

Contact Details:

Queensland Health Telephone: 07 3234 0111

Postal Address: GPO Box 48 Brisbane, Queensland 4001



Queensland Health: About Deadly Ears, http://www.health.qid.gov.au/deadly ears/html/about.asp, last witnessed 6/3/11

South Australia:

Universal Neonatal Hearing Screening:

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The Universal Neonatal Hearing Screening program (UNHS) is coordinated by the Children, Youth and Women's Health Service. It is a state-wide service in South Australia, and is available to both the Indigenous and non Indigenous population. 264



The aim of this program is to 'provide best practice in newborn hearing screening through a specialised

state-wide service, ensuring all infants with significant permanent hearing loss are identified and actively involved in family focused intervention'. 265

The Universal Neonatal Hearing Screening program provides a screening service to newborn babies, along with providing 'education, training and ongoing development through expertise in the area of newborn hearing', and 'promoting newborn hearing screening in the community'. This program focuses on early detection and 'implementing intervention strategies for hearing loss'. 266



Contact details:

Children, Youth and Women's Health Service: Telephone & fax

Telephone: 61 8 8303 1500 (general enquiries)

Fax: 61 8 8303 1656

24 hour contact: Parent Helpline 1300 364 100

²⁶⁴ Children, Youth and Women's Health Service: http://www.cyh.com/SubContent.aspx?p=420, last witnessed

²⁶⁵ Ibid

²⁶⁶ Ibid

Tasmania:

Tasmanian New Born Hearing Screening:

The Tasmanian New Born Hearing Screening is implemented and funded by the Tasmanian department of health and human services. There are hearing screening clinics at the Royal Hobart Hospital, Launceston General Hospital and in Burnie and Devonport where your baby can have their hearing screened. ²⁶⁷

The aim of the Tasmanian New Born Hearing Screening program is to 'identify all Tasmanian babies with a permanent hearing loss, so that they can receive help early'.

The Tasmanian New Born Hearing Screening program is offered to every new born baby in Tasmania, including home birthed babies via the referral from midwives and child health nurses.²⁶⁹ The screening is carried out by a trained

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screener. The process of the screen is similar to that of the SWISH program, which takes around 10-12 minutes with small sticky pads placed on your baby's head, and soft clicking sounds are played to your baby. Your baby's response is then measured and analysed to determine its hearing levels. ²⁷⁰

Contact Details:

Tasmanian Department of Health and Human Services: Statewide Audiology Service

Department of Paediatrics

GPO Box 1061 Hobart 7001

Telephone &fax

Telephone: (03) 6222 7122 or 1300 885 283 (local call cost)

Fax: (03) 6226 4864

Email: audiology@dhhs.tas.gov.au

http://www.dhhs.tas.gov.au/service information/information/tasmanian new born hearing screening, last witnessed 19/3/11

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Tasmanian Government media releases: http://www.media.tas.gov.au/print.php?id=27648, last witnessed 19/3/11

Department of Health and Human Services AudiologyService: Your baby's hearing check

 $^{^{\}rm 267}$ Tasmanian Department of Health and Human Services:

Australian Capital Territory

Hearing Health Program:

The Hearing Health program is implemented by the Winnunga Nimmityjah Aboriginal Health Service, and receives its funding from the ACT Department of Health. This program is available in the Australian Capital Territory, and is specifically for Aboriginal and Torres Strait Islander infants and children. 271

The aim of this program is to provide comprehensive screening services for Aboriginal and Torres Strait Islander infants and children, including the provision of appropriate education and treatment. 272



The Hearing Health program provides a 'comprehensive screening service' with a referral service for children identified to require further treatment. A transport service by the Winnunga Nimmityjah Aboriginal Health Service is available for people who require 'assistance with transport'. 273



Contact Details:

Winnunga Nimmityjah Aboriginal Health Service:

63 Boolimba Crescent Narrabundah ACT 2604

Telephone and Fax:

Phone:(02) 6284 6222 Fax: (02) 6284 6200

²⁷¹ ACT Health, p286, ACT Health Annual Report 2009-10

Community

Australian Government Department of Health and Ageing, ACT Health, Winnunga Nimmityjah: p23, A New Way: The ACT Aboriginal and Torres Strait Islander Health and Family Wellbeing Plan 2006-2011 Winnunga Nimmityjah Aboriginal Health Services, p5, Winnunga Nimmityjah Strong Health Caring for the

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M:&tbnh=134&tbnw=187&ei=EKGFTfrcHYSKuAP82YTKCA&prev=/images%3Fq%3Daboriginal%2Bscreening%26um%3D1%26hl%3Den%26safe%3Dactive%26sa%3DG%26biw%3D1003%26bih%3D370%26tbs%3Disch:1&um=1&itbs=1&iact=rc&dur=233&oei=EKGFTfrcHYSKuAP82YTKCA&page=1&ndsp=14&ved=1t:429,r:13,s:0&tx=153&ty=73>

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81. <a href="http://www.google.com.au/imgres?imgurl=http://www.atsip.qld.gov.au/share-story/images/deadly-ears.jpg&imgrefurl=http://www.atsip.qld.gov.au/share-story/stories/deadly-ears.asp&usg= vIV1hbAmHvyNfUzHCOmmVXL3-

Lw=&h=163&w=250&sz=37&hl=en&start=8&zoom=1&tbnid=mnqrWyhmV6xP6M:&tbnh=115&tbnw=159&ei=5h2HTcySJpKuvgOejtzBCA&prev=/images%3Fq%3Dear%2Bhealth%2Bscreening%2Bprogram%26um%3D1%26hl%3Den%26safe%3Dactive%26biw%3D1003%26bih%3D342%26tbs%3Disch:10%2C342&um=1&itbs=1&iact=hc&vpx=154&vpy=117&dur=2412&hovh=130&hovw=200&tx=111&ty=96&oei=2x2HTc6wllHSuwOA99W7CA&page=2&ndsp=10&ved=1t:429,r:5,s:8&biw=1003&bih=342>

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82.

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83. vvtvDAyrSZzLN10-

3CCA&prev=/images%3Fq%3Dmap%2Bof%2Bsouth%2Baustralia%26um%3D1%26hl%3Den%26safe% 3Dactive%26sa%3DG%26biw%3D1003%26bih%3D342%26tbs%3Disch:1&um=1&itbs=1&iact=hc&vpx =565&vpy=48&dur=848&hovh=199&hovw=254&tx=124&ty=141&oei=WyOHTZyUOoL8vQP6h-3CCA&page=1&ndsp=11&ved=1t:429,r:3,s:0>

last witnessed 23/3/11

84. http://www.google.com.au/imgres?imgurl=http://www.cyh.com/HealthTopics/library/UNHS hearing screen follow-

up.jpg&imgrefurl=http://www.cyh.com/HealthTopics/HealthTopicDetails.aspx%3Fp%3D114%26np%3

D304%26id%3D2923&usg= hMsLrhMs-

z5vuDkAQcHK6NCl6 c=&h=193&w=91&sz=18&hl=en&start=35&zoom=1&tbnid=4BvicBf5YbV1JM:&tbnh=117&tbnw=57&ei=55KHTY 1AYGSuAOOpOHECA&prev=/images%3Fq%3DUniversal%2BNeonatal%2BHearing%2BScreening%2Bprogram%26um%3D1%26hl%3Den%26safe%3Dactive%26sa%3DG%26biw%3D1003%26bih%3D342%26tbs%3Disch:10%2C812&um=1&itbs=1&iact=hc&vpx=394&vpy=93&dur=2054&hovh=154&hovw=72&tx=98&ty=108&oei=0CKHTc 1E4TyvQPFu6DUCA&page=4&ndsp=14&ved=1t:429,r:2,s:35&biw=1003&bih=342>

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85. <a href="http://www.google.com.au/imgres?imgurl=http://www.ozhorizons.com.au/maps/tas map.gif&imgrefurl=http://www.ozhorizons.com.au/maps/tasmaniamap.php&usg=dZynpc6Fz1bSFEkTlaRllYxc4B0=&h=751&w=550&sz=105&hl=en&start=0&zoom=1&tbnid=hr-aKwE0GSgFiM:&tbnh=132&tbnw=97&ei=ASWHTZnRD4iougPJyM3LCA&prev=/images%3Fq%3Dmap%

2Bof%2Btasmania%26um%3D1%26hl%3Den%26safe%3Dactive%26sa%3DG%26biw%3D1003%26bih %3D342%26tbs%3Disch:1&um=1&itbs=1&iact=hc&vpx=702&vpy=-

15&dur=2915&hovh=262&hovw=192&tx=105&ty=178&oei=ASWHTZnRD4iougPJyM3LCA&page=1&n dsp=12&ved=1t:429,r:4,s:0>

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86.

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87. http://www.winnunga.org.au/

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88.

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89. http://www.google.com.au/imgres?imgurl=https://www.doctorsecrets.com/~doctorse/your-ears-nose-throat/ear-infection.gif&imgrefurl=https://www.doctorsecrets.com/~doctorse/your-ears-nose-throat/ear-infections.html&usg= EEHGY8FphYKTr3TGwCVUi8bOZCY=&h=165&w=378&sz=9&hl=en&start=0&zoom=1&tbnid=ddHzDPF76jOclM:&tbnh=86&tbnw=196&ei=PjV TbXYCoPsuAOC4d3YBw&prev=/images%3Fg%3Dcartoon%2Bmiddle%2Bear%26um%3D1%26hl%3Den%26safe%3Dactive%26sa%3DG%26biw%3D1003%26bih%3D342%26tbs%3Disch:1&um=1&itbs=1&iact=hc&vpx=292&vpy=102&dur=4662&hovh=132&hovw=302&tx=213&ty=53&oei=PjV TbXYCoPsuAOC4d3YBw&page=1&ndsp=9&ved=1t:429,r:1,s:0>

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90.



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