



## *Eye and ear medicine*

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## Definition

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General practice eye and ear medicine:

- is the assessment and management of acute, subacute and chronic ophthalmic and otorhinolaryngeal conditions that is conducted by general practitioners
- aims to detect and treat diseases early that may threaten the senses of vision and hearing
- promotes preventive activities that will help Australia reduce the burden of avoidable hearing loss and blindness.

## Curriculum in practice

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Typical presentations that illustrate how the eye and ear medicine curriculum applies to general practice include:

- Ewan, aged 29 years, has been having headaches lately and has noticed that his night vision is quite poor and wonders if he might need glasses. His visual acuity is normal, but visual field testing indicates loss of peripheral vision and his retina appears heavily pigmented on fundoscopy. How would you confirm a diagnosis of *Retinitis pigmentosa*? What dietary changes might you recommend while awaiting specialist review? What is the long term prognosis of his eye condition?
- Brodie, aged 24 years, is complaining that he hasn't been able to clear the water out of his right ear for a week, which has been becoming increasingly painful over the past 24 hours. He is a competition surfer and has already tried a range of over-the-counter preparations without success and wonders if his ear problem might be explained by his recent trip to Hawaii. His ear canal is oedematous and completely occluded by greyish slough. You note that he has significant exostoses. What is the likely diagnosis of his ear pain? What are the common pathogens causing his ear pain and how do these differ in tropical regions? What causes exostoses and how are they treated? How is his ear pain best managed currently, and how may recurrences be reduced?

## Rationale and general practice context

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Eye and ear problems are common general practice presentations. While this curriculum refers to 'ear' medicine, this term is used to include the more commonly accepted terms 'ear, nose and throat' medicine.

### Eye problems in Australian general practice

The burden of visual impairment is not distributed uniformly throughout the world. The least developed regions carry the largest share<sup>1</sup> with 87% of blindness occurring in developing countries.<sup>2</sup> Visual impairment is also unequally distributed across age groups, being largely confined to adults 50 years of age and older.<sup>2</sup> About 50 000 Australians are blind.<sup>3</sup> General practice eye consultations account for about 2.3 out of every 100 consultations and about 8% of medical specialist referrals are to an ophthalmologist.<sup>4</sup>

The blindness rate in Indigenous Australian adults is 1.9%, which is 6.2 times higher than in the nonindigenous population. Over the age of 40 years, Aboriginal and Torres Strait Islander people have six times the rate of blindness of other Australians.<sup>5</sup> Low vision occurs in 9.4% of indigenous adults, which is 2.8 times the rate of the general population. Major causes of blindness in indigenous adults include cataract (32% of cases of blindness), optic atrophy (14%), refractive error (14%), diabetic eye disease (9%) and trachoma (9%). Indigenous adults in very remote areas have more cataract and are less likely to wear glasses, but diabetic eye disease, unoperated cataract and poor reading vision are problems across the whole of Australia.<sup>6</sup>

Indigenous children, especially in remote areas, have better vision than their nonindigenous peers. Overall, low vision occurs in 1.4% of indigenous children (age-standardised rate), which is five times less common than in nonindigenous children. Indigenous children in very remote areas have better vision and less refractive error, but still suffer from trachoma.<sup>6</sup>

General practitioners need to take into account their own skill level, the availability of specialised equipment that they are competent to use, the likelihood of patient injury from either the condition or intervention, and the appropriateness of referral before treating sense-threatening conditions.

The ability for a GP to treat eye conditions also depends on the availability of equipment. For example, GPs in emergency departments may have access to slit lamps, but these may be limited access in other clinical settings. Similarly, rural and remote GPs may require a differing skill set to treat a different range of eye problems, depending on availability of resources.

About 9.4% of Australians aged 55 years or older are visually impaired and about 1.2% are blind. Almost 170 000 Australians aged 65 years or over have visual impairment caused by eye disease. Of these, 51 000 people are classified as blind and almost 119 000 people have low vision.<sup>7</sup> There is a strong association between visual impairment and advancing age and vision problems will become increasingly important within the context of an aging population.

Based on studies that have included an eye examination, cataract is the most common eye disease among Australians aged 65 years or older, affecting over 1.2 million people (almost half of that population). This is followed by age related macular degeneration, diabetic retinopathy and glaucoma. A further 398 400 older Australians are estimated to have early age related maculopathy, which usually carries no symptoms, and are therefore at risk of developing age related macular degeneration.<sup>7</sup>

The increasing rate of type 2 diabetes in the Australian population will also contribute to the total burden of eye disease in Australia.<sup>3</sup>

A distribution imbalance is also found with regard to gender throughout the world, with females having a significantly higher risk of having visual impairment than males.<sup>3</sup> Notwithstanding the progress in surgical intervention that has been made in many countries over the past few decades, cataract remains the leading cause of visual impairment in all regions of the world, except in the most developed countries.<sup>1</sup>

In Aboriginal and Torres Strait Islander communities, the major eye conditions remain diabetic retinopathy, cataract, refractive errors and, for some regions, trachoma, trichiasis and trauma.<sup>5</sup>

## Ear problems in Australian general practice

In 2009–2010, ear problems constituted 3.7 out of every 100 general practice consultations.<sup>4</sup> Of the 3.8 per 100 encounters, 1.0 of these encounters were due to acute otitis media/myringitis, and 0.8 due to ear wax problems. In addition, 6.1% of medical specialist referrals were to an ear, nose and throat specialist.<sup>4</sup>

Latest available estimates indicate that about 3.5 million Australians have hearing loss.<sup>8</sup>

The early detection of hearing loss in children is critical for the development of speech and is a critical role for GPs. Around 3.5 of every 1000 children below the age of 14 years have some hearing impairment.<sup>8,9</sup>

The overall prevalence rates of hearing loss in Australian adults are 26.3% for males 15 years and over, 17.1% for females 15 years and over and 21.6% for the adult population. This equates overall to more than 1 in 4 men and more than 1 in 5 Australian adults who have hearing loss.<sup>8,9</sup>

Around 60% of adults with hearing loss are males, which is attributed to greater workplace noise exposure for men than women. Approximately half of hearing impaired people are in the working age population (15–64 years), and 74% of people over the age of 70 years have some hearing loss.<sup>8,9</sup>

The level of ear disease and hearing loss among Aboriginal and Torres Strait Islander people remains higher than the general Australian population, particularly among children and young adults. Ear infection otitis media, particularly in suppurative forms, is associated with hearing impairment, which affects language development and can cause learning difficulties in children. Permanent hearing loss can occur when not adequately treated and followed up. Otitis media can affect indigenous babies within weeks of birth and a high proportion of children will continue to suffer from chronic suppurative otitis media throughout their developmental years.<sup>10</sup>

The National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) 2008 reported that 1 in 10 indigenous children aged 4–14 years experienced an ear or hearing problem. Ear/hearing problems were reported by 12% of indigenous people who participated in the 2004–2005 NATSIHS. Complete or partial deafness was reported by 9% of indigenous people living in remote and nonremote areas, but the level of otitis media was higher for indigenous people living in remote areas (4%) than for those living in nonremote areas (2%). After adjusting for differences in the age structures of the two populations, otitis media was about 2.8 times more common for indigenous people than for nonindigenous people.<sup>10</sup>

## Related curriculum areas

Refer also to the curriculum statements:

- *Aboriginal and Torres Strait Islander health*
- *Aged care.*

# Training outcomes of the five domains of general practice

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## 1. Communication skills and the patient-doctor relationship

- EAET1.1 Acknowledge the communication needs of patients with hearing and visual disabilities during consultations.
- EAET1.2 Ensure that the treating clinician's diction and volume of speech is suitable for patients with hearing disabilities.
- EAET1.3 Access Auslan interpreters and engage in a three-way communication, or access other appropriate means of communications assistance when consulting with patients with a hearing disability in the absence of a translator.
- EAET1.4 Understand how a deficit in one or more senses may affect a patient's ability to understand medical communications, or their ability to access health services.
- EAET1.5 Use a patient centred, supportive approach and, where able, develop long term relationships with patients with hearing and/or visual disabilities to access effective general practice care.

## 2. Applied professional knowledge and skills

- EAET2.1 Diagnose, manage and monitor acute, sub-acute and chronic eye and ear conditions.
- EAET2.2 Accurately document and monitor changes in visual acuity and the impact of a reduction in visual acuity on a patient's life.
- EAET2.3 Know the indications for, and use of, prescription and over-the-counter medications in the treatment and prevention of common eye and ear conditions. For example, avoid the use of wax softening agents, the use of pH altering drops in chronic otitis externa, and steroid eye drops unless under the care of a specialist ophthalmologist.
- EAET2.4 Incorporate 'red flag' diagnoses that require urgent and immediate specialist advice or treatment to prevent hearing/visual loss or misdiagnosis of potential carcinoma.
- EAET2.5 Understand the increasing use of alternative and complementary medicines and how they may have an adverse impact on vision and hearing.
- EAET2.6 Understand the epidemiology of tumours affecting eyes, ears, nose and throat areas.
- EAET2.7 Understand the relevant anatomy, physiology, pathology and psychology appropriate to the management of common eye and ear conditions.
- EAET2.8 Understand the current best evidence for the management of common eye and ear conditions and the potential harms of pharmacological and nonpharmacological forms of treatment.
- EAET2.9 Take a history for eye and ear medical presentations and document positive and negative findings.
- EAET2.10 Systematically and competently examine the eyes including the appropriate use of an ophthalmoscope, visual acuity testing, visual field testing and manoeuvres for everting the upper lid.
- EAET2.11 Systematically and competently examine the ears including the appropriate use of an auroscope (otoscope) and other equipment, such as tuning forks, in the assessment of hearing, or Valsalva manoeuvre and pneumatoscopy for the detection of ear drum movement.
- EAET2.12 Interpret an audiogram.
- EAET2.13 Manage potentially urgent eye and ear conditions such as glaucoma and epistaxis.
- EAET2.14 Detect and safely remove foreign bodies from the eye, ear, nose or throat and manage any residual corneal ulcer or rust, including appropriate referral.

### 3. Population health and the context of general practice

- EAET3.1 Encourage behavioural changes, such as smoking cessation, for the prevention of age related macular degeneration and orolaryngeal cancers.
- EAET3.2 Understand international and government policies for treatment and prevention of diseases that can have an impact on patients' vision and hearing. Also have knowledge of the increased burden of disease in specific populations to help target appropriate screening and diagnostic strategies.
- EAET3.3 Understand general practice health promotion to help prevent or reduce the loss of function from illness, injury and disability in vision and hearing.
- EAET3.4 Understand the impact on quality of life from hearing and vision disabilities and what services are available to assist patients with such conditions.

### 4. Professional and ethical role

- EAET4.1 Understand the importance of prevention of loss of hearing and vision.
- EAET4.2 Understand the general practitioner's ethical responsibility for advising patients with visual impairment to report to regulatory authorities regarding their fitness to drive a vehicle or fly an aeroplane.
- EAET4.3 Understand and perform the role of appropriate referral to specialist care for acute and sub-acute eye and ear conditions that may threaten vision or hearing.
- EAET4.4 Understand the role of general practice and multidisciplinary care of patients with chronic eye or ear conditions that may not require the intervention of specialist care.

### 5. Organisational and legal dimensions

- EAET5.1 Use patient reminders – including electronic reminders – to facilitate appropriate proactive care, such as recalling patients with diabetes or glaucoma for regular eye checks or referrals to specialist colleagues.
- EAET5.2 Understand the communication skills and practice systems that clinic staff need to enable equitable access to the practice for people with visual or hearing disabilities.
- EAET5.3 Understand the GP's legal responsibility for reporting visual impairment to regulatory authorities regarding fitness to drive a vehicle or fly an aeroplane, as well as workplace safety.
- EAET5.4 Be aware of the services available to patients with visual or hearing disabilities.
- EAET5.5 Be able to record visual acuity and appropriate follow up mechanisms for patients with potentially vision-threatening conditions.

# Learning objectives across the GP professional life

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## Medical student

### 1. Communication skills and the patient-doctor relationship

- EAELM1.1 Describe the impact of sensory impairment on effective patient-doctor communication and measures to address the resulting barriers.
- EAELM1.2 Describe the cultural and social barriers to patient-doctor communication with patients with hearing or visual impairment.
- EAELM1.3 Describe the use of appropriate communication techniques to gather additional history from patients, and, when appropriate, family members, carers and/or other members of the multidisciplinary team.
- EAELM1.4 Outline the role of Auslan interpreters in consultations for people with hearing impairment.
- EAELM1.5 Outline differences in approaches when examining vision and hearing in children.

### 2. Applied professional knowledge and skills

- EAELM2.1 Describe relevant history and examination skills for high quality management of eye and ear conditions.
- EAELM2.2 Describe the principles of diagnosis, management and monitoring of acute, sub-acute and chronic eye and ear conditions and comorbidities. Describe how these may relate to the course of the disease over time.
- EAELM2.3 Describe the key identifying complaints of patients with urgent vision/hearing threatening conditions (eg. 'red flag' conditions such as flashes and floaters).
- EAELM2.4 Demonstrate a systematic examination of the eye including competent use of an ophthalmoscope, red reflex, visual acuity and visual field testing including the ability to evert an eyelid.
- EAELM2.5 Demonstrate a systematic examination of the ears, nose and throat of children and adults, including competent use of an auroscope/otoscope, and be able to view the tympanic membrane and test for movement by Valsalva or pneumatoscopy.
- EAELM2.6 Describe the function of the bionic ear and its indications for use.

### 3. Population health and the context of general practice

- EAELM3.1 Describe the clinical characteristics of common eye and ear conditions.
- EAELM3.2 Describe appropriate screening procedures required to identify asymptomatic individuals at risk for common eye and ear diseases. Also describe procedures for those who already have chronic eye and ear conditions (secondary prevention).
- EAELM3.3 Describe barriers that have an impact on patients accessing optimal care for chronic eye and ear conditions and practical strategies that can be adopted to overcome these barriers.
- EAELM3.4 Outline the chronic eye and ear problems of specific community groups, for example, Aboriginal and Torres Strait Islander people, people from culturally and linguistically diverse backgrounds, and people with a developmental disability.
- EAELM3.5 Outline the demographic groups at increased risk of eye, ear, nose and throat cancers. Discuss preventable causes of vision and hearing loss as it relates to the occupational health and safety of workers.

## 4. Professional and ethical role

- EAELM4.1 Describe the role of the GP in a multidisciplinary team in helping to provide optimal care to people with a chronic eye and ear conditions or disability in the primary healthcare setting.
- EAELM4.2 Discuss potential conflicts between the best interests of the patient with a visual disability who still wishes to drive a vehicle, and the safety of the community. Discuss managing conflict when a patient refuses to cease driving or how to report their disability to regulatory authorities.

## 5. Organisational and legal dimensions

- EAELM5.1 Describe the various health and community resources available for the support, prevention, diagnosis and management of vision and hearing disabilities.
- EAELM5.2 Outline the steps involved in notifying a regulatory authority of a patient's unfitness to drive a vehicle when the patient has refused to notify the authority themselves.

# Learning objectives across the GP professional life

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## Prevocational doctor

### Assumed level of knowledge – medical student

#### 1. Communication skills and the patient-doctor relationship

- EAELP1.1 Describe how consultation environmental factors such as privacy, background noise and location can affect communication with vision and hearing impaired patients.
- EAELP1.2 Demonstrate the appropriate use of interpreters, families and carers during patient-doctor communication.
- EAELP1.3 Explain and discuss investigations and therapies of common diseases of eyes and ears to the patient, their carers and their family.

#### 2. Applied professional knowledge and skills

- EAELP2.1 Demonstrate history and examination skills for eye and ear conditions that are relevant to high quality hospital-based medicine (including the ability to identify Little's area and attempt to control epistaxis).
- EAELP2.2 Demonstrate an ability to interpret results of physical examination findings to formulate a diagnosis when a hearing loss is present (eg. Rinne's/Weber tests).
- EAELP2.3 Demonstrate the ability to cauterise the anterior nose with silver nitrate.
- EAELP2.4 Demonstrate the ability to remove foreign bodies from eyes, ears, nose or throat (tonsillar bed) under direct vision and know when to refer for specialist care.
- EAELP2.5 Investigate and refer appropriately patients with eye and ear conditions.
- EAELP2.6 Discuss the special issues of drug therapy using topical ophthalmic and otological medications including the risks of toxicity.
- EAELP2.7 Be familiar with the use of a slit lamp, where available, and become confident in the ability to judge the depth of an injury to the eye and systematically examine the eye with this apparatus.
- EAELP2.8 Demonstrate the ability to accurately document patient presentations with eye, ear, nose and throat conditions.
- EAELP2.9 Identify red flag diagnoses that require urgent and immediate specialist advice or treatment to prevent hearing/visual loss or misdiagnosis of potential carcinoma.

#### 3. Population health and the context of general practice

- EAELP3.1 Review opportunities for the prevention of eye, ear, nose and throat disease especially among high risk subpopulations.

#### 4. Professional and ethical role

- EAELP4.1 Demonstrate the ability to seek assistance/supervision when appropriate.
- EAELP4.2 Demonstrate the capacity to work effectively as part of a team in caring for patients with eye and ear conditions.

#### 5. Organisational and legal dimensions

- EAELP5.1 Demonstrate effective discharge communications for patients with eye and ear conditions, including planning for continuity of care.

# Learning objectives across the GP professional life

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## Vocational registrar

Assumed level of knowledge – prevocational doctor

### 1. Communication skills and the patient-doctor relationship

- EAELV1.1 Demonstrate the ability to develop an understanding of the patient's knowledge, attitudes and meaning of their visual or hearing disability in the general practice setting.
- EAELV1.2 Demonstrate the negotiation and documentation of appropriate management plans for patients with chronic eye and ear conditions to access services and secondary/tertiary healthcare.
- EAELV1.3 Demonstrate skills to support patients who do not respond to medical management, or who are waiting for surgical intervention for their eye and ear conditions in the general practice setting.

### 2. Applied professional knowledge and skills

- EAELV2.1 Demonstrate the ability to perform appropriate screening procedures for chronic eye and ear conditions in the general practice setting (eg. visual acuity testing, screening for age related macular degeneration).
- EAELV2.2 Demonstrate the ability to identify the relevant risk factors for the future development of visual and hearing deficits.
- EAELV2.3 Demonstrate negotiation of secondary and tertiary prevention strategies for patients with chronic (or preventable) eye and ear conditions.
- EAELV2.4 Demonstrate the ability to identify and implement practical and pragmatic approaches to managing and referring the care of common eye and ear conditions in the general practice setting.
- EAELV2.5 Demonstrate the comprehensive assessment and management of patients who present with common eye and ear conditions in general practice, including the use of fluorescein for diagnostic purposes.
- EAELV2.6 Identify when to undertake, or refer for slit lamp, examinations for eye conditions such as trauma and glaucoma.
- EAELV2.7 Demonstrate an understanding and a safe approach to the treatment of corneal foreign bodies that present in general practice.
- EAELV2.8 Demonstrate an understanding and a safe approach to the use of ocular cycloplegic and topical anaesthetic medications in general practice.
- EAELV2.9 Demonstrate reference and utilisation of antibiotic guidelines and best practice medicine in the treatment of common eye and ear conditions in general practice.

### 3. Population health and the context of general practice

- EAELV3.1 Outline current government policies that relate to assisting people with eye and ear disabilities in the general practice setting.
- EAELV3.2 Identify barriers that have an impact on patients accessing optimal care for their eye and ear conditions.
- EAELV3.3 Describe the appropriate use of community services and resources for patients with a visual or hearing disability.
- EAELV3.4 Discuss health inequality in relation to common eye and ear conditions and preventable causes of blindness and deafness.

### 4. Professional and ethical role

- EAELV4.1 Demonstrate the provision of support at times of crisis for patients with sudden hearing or visual loss.
- EAELV4.2 Demonstrate the review of technologies that have been demonstrated to improve health outcomes for people with chronic eye and ear conditions.
- EAELV4.3 Evaluate specialist treatment recommended for patients by discussing the benefits and risks of suggested treatment, and ensure that patients are not denied useful treatments.
- EAELV4.4 Demonstrate the ability to act in the patient's best interest when antibiotics are requested inappropriately for childhood otitis media.

### 5. Organisational and legal dimensions

- EAELV5.1 Demonstrate access to and use of readily accessible evidence based guidelines for prereferral treatment and referral of common eye and ear conditions.
- EAELV5.2 Demonstrate access and referral to services available to patients with visual or hearing disabilities.

# Learning objectives across the GP professional life

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## Continuing professional development

Assumed level of knowledge – vocational registrar

### 1. Communication skills and the patient-doctor relationship

- EAELC1.1 Demonstrate the ongoing negotiation and documentation of appropriate management plans for patients with chronic eye and ear conditions.
- EAELC1.2 Demonstrate the use of family history information for disease prevention/case finding.

### 2. Applied professional knowledge and skills

- EAELC2.1 Review the knowledge and skills required for effective and efficient healthcare of eye and ear conditions.
- EAELC2.2 Demonstrate the monitoring of competence in assessment and management of common eye and ear conditions.
- EAELC2.3 Maintain up-to-date knowledge of evidence based advances into the care of common and chronic eye and ear conditions (eg. new treatments for age related macular degeneration).
- EAELC2.4 Understand when to cease eye and ear medications.
- EAELC2.5 Be aware of new medications for common eye and ear conditions and changes to indications for use of established medications due to toxicity issues.

### 3. Population health and the context of general practice

- EAELC3.1 Regularly review the role of the GP in population based eye and ear healthcare initiatives (eg. age related macular degeneration, glaucoma and hearing loss).

### 4. Professional and ethical role

- EAELC4.1 Identify own gaps in knowledge and skills in relation to eye and ear conditions.

### 5. Organisational and legal dimensions

- EAELC5.1 Review practice processes to facilitate communication with hospitals and other facilities in relation to referral of patients with eye and ear conditions.
- EAELC5.2 Demonstrate the use of recall systems to ensure patient review and follow up of chronic eye and ear conditions.

## References

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1. World Health Organization. Prevention of blindness and visual impairment. Data and maps. 2009. Available at [www.who.int/blindness/data\\_maps/en/index.html](http://www.who.int/blindness/data_maps/en/index.html).
2. World Health Organization. Visual impairment and blindness. 2009. Available at [www.who.int/mediacentre/factsheets/fs282/en](http://www.who.int/mediacentre/factsheets/fs282/en).
3. Australian Institute of Health and Welfare. Eye health facts. 2011. Available at [www.aihw.gov.au/eye-health-facts](http://www.aihw.gov.au/eye-health-facts).
4. Britt H, Charles J, Henderson J, et al. General practice activity in Australia 2009–10. Canberra: Australian Institute of Health and Welfare, 2010.
5. Australian Institute of Health and Welfare. Eye health in Aboriginal and Torres Strait Islander people. Canberra: Australian Institute of Health and Welfare; 2011.
6. Centre for Eye Research Australia. Minum Barrng (Tracking Eyes). National Indigenous Eye Survey. Melbourne: University of Melbourne; 2009.
7. Department of Health and Ageing. Final report. Risk factors for eye disease and injury: Australian Government; 2011.
8. Australian Senate. Parliament of Australia. Hear us: Inquiry into hearing health in Australia. Canberra: Australian Government; 2010.
9. Access Economics. Listen hear! The economic impact and cost of hearing loss in Australia. Canberra: Access Economics; 2006.
10. Thomson N, MacRae A, Burns J, et al. Overview of Australian Indigenous health status. Perth, Australia: Australian Indigenous HealthInfoNet; 2009.