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Dear Ms Cogan

Vision 2020 Australia thanks you for the opportunity to make a submission to the review of the current version of the *Guidelines for preventive activities in general practice, 9th Edition 2016* (the 'Red Book').

Our organisation works with many partners to prevent avoidable blindness, and we are keen to embed vision into chronic health checks, as we believe this would prevent more Australians unnecessarily losing their sight.

There are currently over 450,000 Australians living with blindness and low vision and on our estimates, this could almost double by 2030, so we are keen to progress this as one of a number of strategies to prevent that occurring. Fortunately, 90 per cent of vision loss can be prevented through early identification and treatment of the underlying condition, and ensuring at risk populations have regular eye tests is the key to prevention.

People aged over 40, people living with diabetes, people who smoke, people with a family history of eye disease and Aboriginal and Torres Strait Islander Peoples are at higher risk of vision loss. We are pleased that vision has been embedded in the NACCHO/RACGP *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people, Third Edition 2018* and is an essential part of MBS item 715.

We are now seeking to extend those arrangements to other Australians to help reduce the prevalence of avoidable vision loss. To do this, Vision 2020 Australia requests that the RACGP expand the current content in the Red Book to include more comprehensive eye health and vision information, and encourage its members to make vision testing a mandatory component of all chronic health checks.

Vision 2020 Australia has worked with a range of its member organisations to develop the attached advice regarding recommended changes to the Red Book and the underpinning evidence base.

Amendments to current content

In inviting submissions to the review of the Red Book, the RACGP has requested advice regarding the changes requested to the current version of the Red Book. This currently includes content related to vision in the following chapters:

- Chapter 3 - Preventive activities in children and young people
- Chapter 5 - Vision and hearing impairment in older age
- Chapter 12 – Glaucoma.

We request that the current content in those chapters be expanded on, through a set of changes to content that are, where appropriate, consistent with similar content in the RACGP/NACCHO national guide.

As there are several options for how this could be achieved, we have developed three options for RACGP consideration which are summarised in Attachment 1: Content Relevant to Eye Health.

- **Option A** would involve reproducing the relevant eye content contained in the RACGP/NACCHO national guide in full
- **Option B** presents a pared back version of this which is tailored to the general population by removing trichiasis and trachoma as these are conditions primary seen in Aboriginal and Torres Strait Islander populations but does not contain any change to wording
- **Option C** presents a more tailored option, in which the content is tailored to the general population and a range of changes to the text are proposed to clarify and/or expand on existing text.

Ideally, we would prefer Option C to be incorporated into the Red Book but look forward to discussing the alternatives with you.

Evidence guide and establishment of dedicated chapter

In inviting submissions to the Red Book review, the College has also requested evidence to support the inclusion of proposed changes in the Red Book.

As much of the evidence to support the proposed changes is common to both Aboriginal and Torres Strait Islander Peoples and other Australians and we recognise the importance of consistency in approach, Vision 2020 Australia has adapted the evidentiary guide contained in the RACGP/NACCHO national guide for this purpose. This is provided at Attachment 2: Evidence Base.

At present, the Red Book does not have a designated chapter for "Eye Health" but rather addresses vision and eye health on pages 50 and 137. Vision 2020 Australia proposes that the next edition of the Red Book include a dedicated chapter on eye health and vision, which could be based on the content provided at Attachment 2. This would be a valuable complement to the changes proposed to testing protocols for patients of various ages.

Vision 2020 Australia recognises that general practitioners are extremely busy, and that there are likely many requests for them to expand existing testing protocols to incorporate additional activities. We consider an expanded focus on vision to be a change that could deliver a significant improvement in health and independence to many Australians into the future, but anticipate that the time required to incorporate this into those checks would be minimal (estimated time required would be 1-2 minutes).

In addition, our members have noted that general practitioners already have the necessary skills and training for the suggested changes, although free online training and resources are available should practitioners wish to refresh their knowledge and skills around eye health and vision.

This submission has been endorsed by the members of the Vision 2020 Australia Prevention and Early Intervention Committee, which includes representatives from the Royal Australian and New Zealand College of Ophthalmologists, Optometry Australia, the Indigenous Eye Health Unit, University of Melbourne amongst others. A list of all organisations represented on that Committee is at Attachment 3.

Vision 2020 Australia and its members would welcome the opportunity to meet with you to discuss how we can work together to prevent avoidable blindness, both by supporting the changes outlined in this submission and exploring what practical strategies might be helpful in supporting any change in GP practice in the future.

Yours sincerely

Janine Sherrard

Janine Sherrard
General Manager Policy, Advocacy and Engagement

Attachment 1: Content Relevant to Eye Health

Option A: Reproduce in full relevant content from the RACGP/NACCHO national guide

(source: RACGP/NACCHO National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people Chapter 6, pp 66 -67)

Visual acuity

Recommendations: Visual acuity

Preventive intervention type	Who is at risk?	What should be done?	How often?	Level/ strength of evidence
Screening	Infants	Conduct a general eye examination. Refer to an ophthalmologist if the red reflex is absent or any other abnormality is found	Before three months of age and again between three and six months of age	GPP
	Children aged 3–5 years	Screen for visual acuity Refer if visual acuity is less than 6/9 in either eye for a three-year-old and 6/9 or less in either eye for a 4–6-year-old	As part of a routine health assessment at or before school entry	GPP
	All age groups	Ask about vision. Complete an eye examination and test visual acuity if any problems are identified Include testing for near visual acuity from age 40 onwards Refer to an optometrist and/or ophthalmologist if problems are identified	Every 1–2 years as part of a routine health assessment	GPP
	People with diabetes	Undertake visual acuity and retinal assessment by a trained assessor This includes the use of retinal photography by trained primary healthcare staff combined with external review by an ophthalmologist	Yearly	IA IA
	Pregnant women with pre-existing diabetes	Conduct an eye examination and counsel clients about the risks of diabetic retinopathy (DR)	Prior to conception	III–2B
		Conduct an eye examination by dilated fundus examination or retinal digital imaging	In the first trimester	III–2B
		The need for further retinal examinations should be guided by results of earlier examinations	In the second and third trimesters	IV
		Provide ongoing ophthalmic follow-up in the post-partum period	For 6–12 months postpartum	III–2B
Behavioural	People who currently smoke	Advise smoking cessation to reduce the risk of developing cataracts (refer to Chapter 1: Lifestyle, 'Smoking')	Opportunistic	IIIC
	All people	Recommend reduced ocular exposure to ultraviolet B light to reduce risk of cataract (eg wearing a hat and sunglasses when outdoors)	Opportunistic	IIIC
	All people	Recommend a balanced diet high in fruit and vegetables to reduce the risk of developing cataract and age-related macular degeneration	Opportunistic	IIB

Trachoma and trichiasis

Recommendations: Trachoma and trichiasis				
Preventive intervention type	**Who is at risk?**	**What should be done?**	**How often?**	**Level/ strength of evidence**
Screening	People living where trachoma is endemic (>5% prevalence of active trachoma in young children or >0.1% of the population have trichiasis)	Implement a community screening program in partnership with regional population health units to assess the population prevalence of active trachoma Ongoing community screening is not required once prevalence is below 5% in children aged 5–9 years for five consecutive years	As per national guideline recommendations (refer to 'Resources')	GPP
	Adults aged >40 years raised in trachoma-endemic area	Perform eye examination to ascertain corneal scarring and/or the presence of trichiasis*	Two-yearly age 40–54 years, yearly age ≥55 years	GPP
		For those identified to have trichiasis, refer to an ophthalmologist for surgery		IIIB
Behavioural	All children from trachoma-endemic areas	Recommend to families the importance of the following in the prevention and control of trachoma: • facial cleanliness of children • safe and functional washing facilities at home, in childcare and at school • regular screening, and treatment of infection	Opportunistic and as part of an annual child health check	IIB
Chemo-prophylaxis	People living where trachoma is endemic (>5% prevalence of active trachoma in young children)	Treat case and all household contacts, discuss with regional trachoma control program to plan and deliver treatment to community, depending on community prevalence/cluster pattern Treat children who have been opportunistically found to have evidence of active trachoma infection and treat all household contacts	As per state and territory protocols	IA
Environmental	All people	Assess the safety and functionality of the bathroom and washing facilities, and the housing situation for overcrowding, and refer to social support services for housing assistance if indicated (refer to Chapter 7: Hearing loss)		GPP
	Remote communities	Implement joint health promotion strategies with state/territory government public health units and local shire councils for maintaining functional washing facilities and other environmental health standards	As per state/ territory government plans	GPP

*Trichiasis is diagnosed when at least one eyelash rubs on the eyeball, or there is evidence of recently removed eyelashes because of eyelash in-turning.[72]

Option B: Reproduce part of the content from the RACGP/NACCHO national guide, removing references to trichiasis and trachoma)

(source: RACGP/NACCHO National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people Chapter 6, p66)

Visual acuity

Recommendations: Visual acuity				
Preventive intervention type	Who is at risk?	What should be done?	How often?	Level/ strength of evidence
Screening	Infants	Conduct a general eye examination. Refer to an ophthalmologist if the red reflex is absent or any other abnormality is found	Before three months of age and again between three and six months of age	GPP
	Children aged 3–5 years	Screen for visual acuity Refer if visual acuity is less than 6/9 in either eye for a three-year-old and 6/9 or less in either eye for a 4–6-year-old	As part of a routine health assessment at or before school entry	GPP
	All age groups	Ask about vision. Complete an eye examination and test visual acuity if any problems are identified Include testing for near visual acuity from age 40 onwards Refer to an optometrist and/or ophthalmologist if problems are identified	Every 1–2 years as part of a routine health assessment	GPP
	People with diabetes	Undertake visual acuity and retinal assessment by a trained assessor This includes the use of retinal photography by trained primary healthcare staff combined with external review by an ophthalmologist	Yearly	IA IA
	Pregnant women with pre-existing diabetes	Conduct an eye examination and counsel clients about the risks of diabetic retinopathy (DR)	Prior to conception	III–2B
		Conduct an eye examination by dilated fundus examination or retinal digital imaging	In the first trimester	III–2B
		The need for further retinal examinations should be guided by results of earlier examinations	In the second and third trimesters	IV
		Provide ongoing ophthalmic follow-up in the post-partum period	For 6–12 months postpartum	III–2B
Behavioural	People who currently smoke	Advise smoking cessation to reduce the risk of developing cataracts (refer to Chapter 1: Lifestyle, 'Smoking')	Opportunistic	IIIC
	All people	Recommend reduced ocular exposure to ultraviolet B light to reduce risk of cataract (eg wearing a hat and sunglasses when outdoors)	Opportunistic	IIIC
	All people	Recommend a balanced diet high in fruit and vegetables to reduce the risk of developing cataract and age-related macular degeneration	Opportunistic	IIB

Option C: Tailored changes to existing Red Book content

(based off current RACGP Red Book content, with suggested changes to content or wording is highlighted in yellow)

Red Book Chapter	Age	What should be done?	References (in Att 2)
Chapter 3: Preventive activities in children and young people[1] (page 33). **Table 3.1. Age-related health checks in children and young people**	2, 4, 6, 12 and 18 months; and 3 years	Conduct a general eye examination. Refer to an ophthalmologist if the red reflex is absent or any other abnormality is found. Before three months of age and again between three and six months of age.	15, 16, 17
	3.5-5 years	Check vision as part of a routine health assessment at or before school entry Refer to optometrist and/or ophthalmologist if visual acuity is less than 6/9 in either eye	15
	6-13 years	Check vision as part of a routine health assessment Refer to optometrist and/or ophthalmologist if visual acuity is less than 6/9 in either eye	
	14-19 years	Ask about vision. Complete an eye examination and test visual acuity if any problems are identified. Refer to optometrist and/or ophthalmologist if problems reported or identified.	
Chapter 4: Preventive activities in middle age (page 43)	45-49 years	Ask about vision and family history of eye disease (age-related macular degeneration and glaucoma in first-degree relatives). Complete an eye examination and test visual acuity if any problems are identified. Include testing for near visual acuity from age 40 onwards Refer to optometrist and/or ophthalmologist if problems reported or identified. Consider referral to consumer organisations if family history of conditions such as glaucoma or retinal conditions.	
	50-64 years	Ask about vision and family history of eye (age-related macular degeneration and glaucoma in first-degree relatives). Complete an eye examination and test visual acuity if any problems are identified. Include testing for near visual acuity Refer to optometrist and/or ophthalmologist if problems reported or identified.	

[1] New footnote: Amblyopia and abnormal eye movements can manifest in the early years, and should be referred for follow up. Myopia (short sightedness) can also develop in childhood, typically from the age of 5 onwards.

Red Book Chapter	Age	What should be done?	References (in Att 2)
		Consider referral to consumer organisations if family history of conditions such as glaucoma or retinal conditions.	
People with diabetes		Undertake visual acuity and retinal assessment by a trained assessor. This includes the use of retinal photography by trained primary healthcare staff combined by with external review by an ophthalmologist or optometrist. Adherence to RANZCO patient screening and referral pathway guidelines for diabetic retinopathy is recommended.[2]	
Behavioural	All people	Recommend a balanced diet high in fruit and green leafy vegetables to reduce the risk of developing cataract and age-related macular degeneration. Adherence to RANZCO referral pathway on age-related macular degeneration management is recommended. [3]	37
Chapter 5: Preventive activities in older age (page 50) **5.4 Visual and hearing impairment**		Visual acuity should be assessed from 65 years of age using the Snellen Chart (B) in those with symptoms or who request it. Patients of all ages should be asked about vision and family history of age-related macular degeneration and glaucoma (first-degree relatives) as part of the health assessment, and should be referred to an optometrist or ophthalmologist for further assessment and management if problems are reported or identified. Consider referral to consumer organisations if family history of conditions such as glaucoma or retinal conditions. Adherence to RANZCO patient screening and referral pathway guidelines for diabetic retinopathy, age-related macular degeneration and glaucoma management is recommended. [4]	50, 51

[2] https://ranzco.edu/wp-content/uploads/2020/08/Patient-Screening-and-Referral-Pathway-and-Clinical-Notes-for-Diabetic-Retinopathy-Management-in-Australia-2019.pdf
[3] https://ranzco.edu/wp-content/uploads/2020/11/RANZCO-Referral-pathway-for-AMD-management.pdf
[4] https://ranzco.edu/home/policies-and-guidelines/referral-pathway/

Red Book Chapter	Age	What should be done?	References (in Att 2)
Table 5.4.2 Visual and hearing impairment: Preventive interventions	Visual impairment: Case finding	Use a Snellen chart to screen for visual impairment in the elderly if requested, or indicated by symptoms or history. Patients of all ages should be asked about vision and family history of age-related macular degeneration or glaucoma (first-degree relatives) as part of the health assessment, and should be referred to an optometrist or ophthalmologist for further assessment and management if problems are reported or identified. Referral is more urgent if family history is present. Adherence to RANZCO patient screening and referral pathway guidelines for diabetic retinopathy, age-related macular degeneration and glaucoma management is recommended. [5] Also refer to Chapter 12: Glaucoma	
Glaucoma **Chapter 12 (p137)** **Table 12.1**	Increased risk: Family history of glaucoma (first-degree relatives) Higher risk: Patients aged >50 years with: – diabetes – myopia – long-term steroid use – migraine and peripheral vasospasm – abnormal blood pressure (BP) – history of eye trauma – diabetes	Refer for examination of the optic nerve head (ophthalmoscopy), measurement of intraocular pressure (tonometry), assessment of visual fields (perimetry)* and diagnostic optic nerve and retinal nerve fibre layer imaging (e.g. optical coherence tomography). [6] Adherence to RANZCO referral pathway for glaucoma management is recommended. [7]	
Table 12.2	Assessment of eye structure (ophthalmoscopy)	Indirect ophthalmoscopy performed with a slit lamp and diagnostic optic nerve and retinal nerve fiber layer imaging (e.g. optical coherence tomography) are the examinations of choice. [8] Adherence to RANZCO referral pathway for glaucoma management is recommended.[9]	

[5] https://ranzco.edu/home/policies-and-guidelines/referral-pathway/

Attachment 2: Evidence Base

The adapted evidentiary guide contained in the RACGP/NACCHO *National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people, Third Edition 2018*, with included modifications to reflect the evidence related to other Australians.

Visual acuity

Background

Eye health is critical to quality of life. In 2016, more than 453,000 Australians were living with vision impairment or blindness. Based on the 2016 National Eye Health Survey (NEHS) and age-adjusted population data, it is estimated up to 432,800 non-Indigenous Australians aged 50 years or older, and up to 18,300 Aboriginal and Torres Strait Islander people aged 40 years or older have visual impairment.[1] Approximately 90% of vision impairment and blindness among both Aboriginal and Torres Strait Islander people and non-Indigenous Australians is preventable or treatable.[1]

In the 2016 NEHS, a person with vision impairment was defined as having visual acuity between <6/12 and 6/60 in the better eye and a person with blindness was defined as having visual acuity <6/60 in the better eye.[1]

Impaired vision often goes unrecognised and contributes significantly to morbidity.[2] Eye and sight problems are a common self-reported long-term health condition.[3,4]

In the elderly, visual impairment is a risk factor for falls, hip fractures, depression, social and functional decline and increased mortality.[5-10]

There is no significant difference in the prevalence of vision impairment between males and females, however, the prevalence of vision impairment increases markedly with age.[1]

The age-adjusted prevalence of vision impairment in non-Indigenous Australians is 4.57%, with Aboriginal and Torres Strait Islander peoples exhibiting a rate three times higher (13.6%).[1] Similarly, the age-adjusted prevalence of blindness in Aboriginal and Torres Strait Islander peoples is three times higher compared to non-Indigenous Australians (0.36% versus 0.12%).[1]

The main causes of vision impairment are: uncorrected refractive error (approximately 60% in both non-Indigenous Australians and Aboriginal and Torres Strait Islander peoples) and cataract (13.9% in non-Indigenous Australians and 20.2% in Aboriginal and Torres Strait Islander peoples). This highlights that approximately 80% of vision impairment is treatable with spectacle correction or cataract surgery.[1]

Other notable causes of vision impairment were age-related macular degeneration in non-Indigenous Australians (8.96% compared with 1.09% in Aboriginal and Torres Strait Islander peoples), and diabetic retinopathy in Aboriginal and Torres Strait Islander peoples (5.46% compared with 1.49% in non-Indigenous Australians). Glaucoma accounts for 1.49% and 0.55% of vision impairment in non-Indigenous and Aboriginal and Torres Strait Islander Australians, respectively.[1]

The primary cause of bilateral blindness in non-Indigenous Australians is age-related macular degeneration (71.4%).[1]

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[6] American Academy of Ophthalmology, Preferred Practice Pattern. Primary Open-Angle Glaucoma. 2015. Available at https://www.aao.org/preferred-practice-pattern/primary-open-angle-glaucoma-ppp-2015 (Accessed 19 October 2020)
[7] https://ranzco.edu/wp-content/uploads/2019/06/RANZCO-Referral-Pathway-for-Glaucoma-Management.pdf
[8] American Academy of Ophthalmology, Preferred Practice Pattern. Primary Open-Angle Glaucoma. 2015. Available at https://www.aao.org/preferred-practice-pattern/primary-open-angle-glaucoma-ppp-2015 (Accessed 19 October 2020)
[9] https://ranzco.edu/wp-content/uploads/2019/06/RANZCO-Referral-Pathway-for-Glaucoma-Management.pdf

Diabetic retinopathy (DR) is a significant cause of vision impairment, with prevalence of 1.5% in non-Indigenous Australians and 5.5% in Aboriginal and Torres Strait Islander individuals.[1]

Cataract surgery occurs more often in non-Indigenous Australians than in Aboriginal and Torres Strait Islander people (87.6% versus 61.5%),[1,14] and treatment coverage of refractive error in similarly higher for the non-Indigenous population (93.7% vs 83.3%).[1]

Nearly 78% of non-Indigenous Australians with self-reported diabetes report having a diabetes eye examination within the last year, as recommended by National Health and Medical Research Council (NHMRC) guidelines, however, only around one half of Aboriginal and Torres Strait Islander people reported doing so. Very remote areas have significantly lower rates of eye examination.[1]

Interventions

Evidence for the effectiveness of preventive interventions

Vision screening in children

Available literature and many professional guidelines generally recommend a check for congenital eye conditions within the first three months of life.15 The project advisory group from the National Children's Vision Screening Project (NCVSP) in 2009 also recommended vision assessments for children between the ages of three and six months.16,17 For older children, the NCVSP, two recent Australian reviews and the US Preventive Services Task Force (USPSTF) recommend vision screening at least once between the ages of three and five years.15–17, 67

Screening should aim to detect diminished visual acuity, and follow-up screening and treatment should be available for those who require it. Referral criteria are dependent on the age of the child and include a visual acuity less than 6/9 in either eye for a three-year-old and 6/9 or less in either eye for a 4–6-year-old.15

Evaluation of the pupil red reflex with an ophthalmoscope should also be done wherever possible for all age groups (but especially in newborns, infants and young children), to screen for media opacities (e.g. cataract) and/or fundus abnormalities (e.g. retinal detachment). Abnormal colour (particularly white), or incomplete or asymmetrical colouring warrants an urgent referral to an optometrist or ophthalmologist for further assessment.

In Australia, the prevalence of amblyopia in children ranges from 1.4% to 3.6%, while strabismus ranges from 0.3% to 7.3% and refractive error ranges from 1% to 14.7%. Aboriginal and Torres Strait Islander children are five times less likely to have vision impairment than non-Indigenous children,16 with less refractive error and strabismus.

In addition to routine vision screening, Aboriginal and Torres Strait Islander children living in rural and remote areas should be screened for trachoma when there is increased risk.

Further, children with a history of prematurity, birth weight less than 1500 g, and developmental delay or disability, should have more comprehensive eye testing and follow-up as they are at increased risk of vision impairment.16 In Australia, each state and territory health department has separate guidelines for paediatric vision screening.17 These guidelines are all generally in keeping with the above evidence.7,17,19–22

Vision screening in adults

Vision screening for adults is beneficial, as many sight-threatening conditions increase in prevalence with advancing age and may be asymptomatic in the early stages and to promote eye care seeking behaviours. Early detection allows for earlier intervention, with the benefits of reductions in vision loss, maintenance of productivity, reduced risk of injury, falls and mobility and maintenance of quality of life.

Further, early recognition of vision loss due to refractive error or cataract is correctable with spectacles, contact lenses and refractive surgery, where appropriate.[23,24, 10]

Patients of all ages should be asked about vision and whether their ability to do what they want to do safely is affected by their vision[11], as part of the health assessment, and should be referred to an optometrist or ophthalmologist for further assessment and management if problems are reported or identified.
There is broad consensus in recommending an assessment of visual acuity in Australians from 65 years of age if requested or symptomatic.[7] This is supported by the guidelines of RANZCO[12], American Optometric Association[13], and American Academy of Ophthalmology, which also recommends a dilation examination every 1 to 2 years for all adults 65 years or older who do not have risk factors or more frequently if risk factors are present. [14]

Adults between 19 to 40 years of age are recommended to have an eye examination at least every two years, unless additional risk factors are present. [15,16]
An Optometry MBS item 10910 is available to cover a comprehensive eye examination every 36 months, and Item 10911 for annual eye examinations in patients 65 years and older.[17]

The substantially higher prevalence and under-diagnosis of vision impairment in Aboriginal and Torres Strait Islander peoples, along with poorer access to corrective services, warrants routine visual acuity screening in all age groups in this population.
An eye examination is a mandatory requirement for a 'Medicare Health Assessment for Aboriginal and Torres Strait Islander Peoples Health Assessment' (MBS item 715; refer to 'Resources'),[25] and this is supported by recommendations in the *CARPA standard treatment manual* (7th ed) and the Queensland *Chronic conditions manual*.[19,20]

Testing vision

The standard (Snellen) eye chart and tumbling E chart are the most suitable tools to assess visual acuity.[20]
The CRANAplus *Remote primary care manual* also includes the option of using Lea charts.[26]
Screening questions are not as accurate as visual acuity testing for identifying visual acuity impairment.[27,28]
The E-test visual acuity charts for near and distance vision are useful for people who cannot read Roman letters[29] and were used routinely in the NIEHS.[4] The need to test near or 'reading' vision, especially in those aged over 40 years, is of even greater importance. Near vision test cards or in fact

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[10] An Evidence-Based Guideline for the Frequency of Optometric Eye Examinations: https://pdfs.semanticscholar.org/7378/29031b22c94bb6baa62ac08a12d0913c3a30.pdf

[11] Perceptions of Older People Regarding Their Vision and Incident Causation https://pubmed.ncbi.nlm.nih.gov/26367341/

[12] Royal Australian and New Zealand College of Ophthalmologists. RANZCO Referral Pathway for AMD Management. Available at https://ranzco.edu/wp-content/uploads/2020/01/080120-RANZCO-Referral-pathway-for-AMD-management-revised.pdf (Assessed 19 October 2020)

[13] American Optometric Association. Senior: Over 60 Years of Age. St. Louis, MO: American Optometric Association; 2014. Accessed https://www.aoa.org/healthy-eyes/eye-health-for-life/senior-vision?sso=y (Assessed 19 October 2020).

[14] Feder RS, Olsen TW, Prum BE Jr, et al. Comprehensive Adult Medical Eye Evaluation Preferred Practice Pattern(®) Guidelines. *Ophthalmology*. 2016;123(1):P209-36.

[15] American Optometric Association. Comprehensive Adult Eye and Vision Examination. Available at https://www.aoa.org/AOA/Documents/Practice%20Management/Clinical%20Guidelines/EBO%20Guidelines/Comprehensive%20Adult%20Eye%20and%20Vision%20Exam.pdf (Assessed 19 October 2020)

[16] https://www.nhs.uk/common-health-questions/nhs-services-and-treatments/how-often-can-i-have-a-free-nhs-eye-test/

[17]Department of Health. Medicare Benefits Schedule. Canberra: MBS Online, 2020. Available http://www9.health.gov.au/mbs/fullDisplay.cfm?type=item&q=10910 (Assessed 19 October 2020)

any printed matter can be used to test near vision, and E-tests for near vision can also be used for the those who cannot read.[26]

Vision testing resources and further training materials can be assessed online[18] or from optometry or ophthalmology professional bodies.

Cataract

Cataract surgery has been shown to improve vision[27,30] and quality of life,[30, 35] and reduce the risk of car crash[31,32] and the rates of falls in older people.[33,34]
Risk factors for cataract include age,[36–38] cumulative ocular exposure to ultraviolet light,[36–40] diabetes and poor diabetic control,[37,41] smoking,[36–38,42] alcohol use,[37,38] family history of cataract, ocular injury, use of corticosteroids and high myopia.[37] Although exposure to sunlight accounts for only 10% of cataracts in urban, non-tropical Australian settings,[40] this risk factor may be more important in northern Australian populations. A diet high in fruit and vegetable intake is associated with a lower risk of developing cataract,[37] and a recent meta-analysis indicated a clinically relevant reduction in cataract incidence associated with statin use.[44]

Diabetic retinopathy

General practitioners are well placed to carry out screening for diabetic retinopathy based on the RANZCO referral pathway.[19]

GPs play a significant role in regional and rural areas in screening for diabetic retinopathy (DR). There are Medicare item numbers for the use of nonmydriatic retinal cameras for screening (12325 or 12326). Examples of standard grading photographs are available and can be used as a reference.[20]

General practitioners carrying out diabetic retinopathy screening may sometimes encounter a situation where the best corrected visual acuity (with spectacles or a pin hole, or both) is less than 6/12 and the fundus photograph is normal and no cause for this reduced acuity is obvious. If an ophthalmologist is not available to review the patient, it is recommended that the patient should first be referred to an optometrist (if possible) to rule out other causes of the reduced vision, before referring the patient to an ophthalmologist.[21]

Adherence to RANZCO patient screening and referral pathway guidelines for diabetic retinopathy is recommended.[22]

The overall prevalence of DR in those with known diabetes in Australia is around 25%.[45–47]

Duration of diabetes is the strongest factor determining DR prevalence;[38,49–51] however, early onset DR (within 10 years of onset of diabetes) is more common in Aboriginal and Torres Strait Islander peoples than in non-Indigenous people.[38] The most important systemic factors associated with increased risk of DR are poor glycaemic control,[38,45,49,50,52] hypertension,[38,50,52] dyslipidaemia [38,50,52] and renal impairment.[50,52] There is a possible association with alcohol and the development of diabetic retinopathy.[37]

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[18] Indigenous Eye Health Unit, University of Melbourne. “Check Today, See Tomorrow” Resources. Available at https://mspgh.unimelb.edu.au/__data/assets/pdf_file/0005/2555600/A4-DR-Rdmap-resource-2017.10.05.pdf (Assessed 19 October 2020)
[19] https://ranzco.edu/wp-content/uploads/2020/08/Patient-Screening-and-Referral-Pathway-and-Clinical-Notes-for-Diabetic-Retinopathy-Management-in-Australia-2019.pdf
[20] Wilkinson CP, Ferris FL 3rd, Klein RE, Lee PP, Agardh CD, Davis M, Dills D, Kampik A, Pararajasegaram R, Verdaguer JT; Global Diabetic Retinopathy Project Group. Proposed international clinical diabetic retinopathy and diabetic macular edema disease severity scales. Ophthalmology. 2003 Sep;110(9):1677-82. doi: 10.1016/S0161-6420(03)00475-5. PMID: 13129861.
[21] https://ranzco.edu/wp-content/uploads/2020/08/Patient-Screening-and-Referral-Pathway-and-Clinical-Notes-for-Diabetic-Retinopathy-Management-in-Australia-2019.pdf (p6).
[22] https://ranzco.edu/wp-content/uploads/2020/08/Patient-Screening-and-Referral-Pathway-and-Clinical-Notes-for-Diabetic-Retinopathy-Management-in-Australia-2019.pdf

Pregnancy is an independent risk factor for worsening of DR.[38,50,53] Progression of retinopathy occurs at approximately double the rate in pregnant women compared with non-pregnant women and is a leading cause of blindness in women who have pre-existing diabetes during their childbearing years.[53]

Current Australian recommendations are that all persons with diabetes should be screened and evaluated for retinopathy by an optometrist or ophthalmologist at the time of diagnosis, with recommended review interval for those with no or minimal retinopathy at 1 or 2 years)[23].

Patients with higher risk (e.g. longer duration of diabetes; suboptimal glycaemic management, blood pressure or blood lipid control; people from a non-English-speaking background) should be reviewed at least annually.

Aboriginal and Torres Strait Islander people with diabetes should have visual acuity and retinal assessment (by dilated fundus examination or retinal photography) at the diagnosis of diabetes, and then yearly.[47,48,50,54]

Establishing an effective referral process for those with retinopathy is important. People with diabetes may have refractive error and are at increased risk of developing cataract. Screening and referral pathways for these conditions are also important in providing appropriate eye care for those with diabetes.

Regular follow-up with early detection and timely treatment of vision-threatening retinopathy enables the prevention of up to 98% of visual loss.[50–52,55] Those at high risk (poor glycaemic control, hypertension, dyslipidaemia and longer duration of diabetes), should be screened annually.[47,50,54,56]

Screening for children with diabetes should begin at puberty unless clinical concerns become apparent before this.[47,50,54]

Mydriatic or non-mydriatic retinal photography screening has been shown to be an effective alternative to dilated fundus examination [50,57–59] and is being used routinely in some isolated areas of Australia with support through telemedicine.[54]

MBS item numbers for assessment of visual acuity and retinal photography with a non-mydriatic retinal camera for Aboriginal and Torres Strait Islander people with diabetes (MBS item 12325); and non-Indigenous people with diabetes (MBS Item 12326) for use in general practice became available in November 2016.[25,54]

Good glycaemic,[38,47,50,52,60–64] lipid [52,62,63] and blood pressure [38,47,50,52,61–63] control, together with regular eye examinations and early treatment of any diabetic retinopathy, remain the cornerstone of primary prevention and delay of progression of diabetic retinopathy.[47,50,63,65]

These measures also increase the length of life, so do not reduce the lifetime risk of developing retinopathy. Once DR is detected, further examinations by an optometrist or ophthalmologist should be conducted annually or at three-monthly to 12-monthly intervals, depending on the level of DR.

Any new visual symptoms should prompt consideration of specialist referral.[47,50]

Urgent ophthalmology referral (within four weeks) is recommended if any of the following are suspected: diabetic macular oedema (DME), proliferative diabetic retinopathy (PDR) or an unexplained fall in visual acuity.[50]

For women with pre-existing diabetes who become pregnant, a first trimester eye examination, either by dilated fundus examination or retinal digital imaging, is recommended.[50,52,53,66]

Many guidelines also recommend preconception counselling about the risks of DR and eye examination for women with pre-existing diabetes who are planning pregnancy.[52,53,61,66]

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[23] The Royal Australian College of General Practitioners. Management of type 2 diabetes: A handbook for general practice. East Melbourne, Vic: RACGP, 2020 (page 76).

Rapid optimisation of previously poor glycaemic control in pregnancy should be deferred until after retinal assessment for women with pre-existing diabetes.[61] For pregnant women with pre-existing diabetes, retinal examinations in the second and third trimester are also recommended by most guidelines, depending on findings in earlier examinations.[50,52,53,66] Evidence indicates a need for ophthalmic follow-up for 6–12 months postpartum for women who had diabetes prior to pregnancy.[52,53,61] Women with gestational diabetes do not require screening because their risk of diabetic retinopathy does not increase during pregnancy.[52]

Recommendations: Visual acuity

Preventive intervention type	Who is at risk?	What should be done?	How often?	Level/ strength of evidence	References
Screening	Infants and neonates	Conduct a general eye examination. Refer to an ophthalmologist if the red reflex is absent or any other abnormality is found	Before three months of age and again between three and six months of age	GPP	15–17
	Children aged 3–5 years	Screen for visual acuity Refer to optometrist and/or ophthalmologist if visual acuity is less than 6/9 in either eye for a three-year-old and 6/9 or less in either eye for a 4–6-year-old	As part of a routine health assessment at or before school entry	GPP	15–17, 67
	All age groups	Ask about vision and whether they are having difficulties doing any activities safely because of their vision[24]. Complete an eye examination and test visual acuity if any problems are identified. Include testing for near visual acuity from age 40 onwards. Refer to an optometrist and/or ophthalmologist if problems are identified. Concerns about activities of daily living, or orientation and mobility may require further referral to low vision or patient and vision rehabilitation services[25]	Every 1–2 years as part of a routine health assessment	GPP	7, 19, 20
	People with diabetes	Undertake visual acuity and retinal assessment by a trained assessor This includes the use of retinal photography by trained primary healthcare staff combined with external review by an optometrist or ophthalmologist. Adherence to RANZCO patient screening and referral pathway guidelines for diabetic retinopathy is recommended.[26]	Yearly	IA IA	50 57–59
	Pregnant women with pre-existing diabetes	Conduct an eye examination and counsel clients about the risks of diabetic retinopathy (DR)	Prior to conception	III–2B	52, 53, 61, 66
		Conduct an eye examination by dilated fundus examination or retinal digital imaging	In the first trimester	III–2B	50, 52, 53, 66
		The need for further retinal examinations should be guided by results of earlier examinations	In the second and third trimesters	IV	50, 52, 53, 66
		Provide ongoing ophthalmic follow-up in the post-partum period		III–2B	52, 53, 61

[24] https://pubmed.ncbi.nlm.nih.gov/26367341/
[25] https://pubmed.ncbi.nlm.nih.gov/24400653/
[26] https://ranzco.edu/home/policies-and-guidelines/referral-pathway/

Behavioural	People who currently smoke	Advise smoking cessation to reduce the risk of developing cataracts and age-related macular degeneration (refer to Chapter 1: Lifestyle, 'Smoking')	For 6–12 months postpartum Opportunistic	IIIC	38
	All people	Recommend reduced ocular exposure to ultraviolet B light to reduce risk of cataract (e.g. wearing a hat and sunglasses when outdoors)	Opportunistic	IIIC	38, 68, 69
	All people	Recommend a balanced diet high in fruit and green leafy vegetables to reduce the risk of developing cataract and age-related macular degeneration	Opportunistic	IIB	37

Resources

- Vision 2020 Australia. *National Eye Health Survey,* Full Report *https://www.vision2020australia.org.au/resources/national-eye-health-survey-report/*
- Centre for Eye Research Australia (CERA), Melbourne School of Population and Global Health, University of Melbourne, *National Indigenous Eye Health Survey: Minum barreng (Tracking eyes) – Full report*, http://mspgh.unimelb.edu.au/__data/assets/pdf_file/0004/1984144/niehs_full_report.pdf
- Lions Outback Vision, *Diabetic retinopathy screening manual,* www.outbackvision.com.au/wp-content/uploads/2017/03/161212-lov.man_.002-diabetic-retinopathy-screening-manual.pdf
- Royal Australian and New Zealand College of Ophthalmologists Referral Pathways Diabetic Retinopathy Management, AMD Management and Glaucoma Management https://ranzco.edu/home/policies-and-guidelines/referral-pathway/
- National Health and Medical Research Council (NHMRC), Guidelines for the management of diabetic retinopathy, www.nhmrc.gov.au/_files_nhmrc/file/publications/synopses/di15.pdf

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Attachment 3: Members of the Vision 2020 Australia Prevention and Early Intervention Committee

Member organisations on the Vision 2020 Australia Prevention and Early Intervention Committee, who endorse this submission:

- Australian College of Optometry
- Brien Holden Foundation
- Centre for Eye Research Australia
- Glaucoma Australia
- Guide Dogs NSW/ACT
- Indigenous Eye Health Unit – University of Melbourne
- Keratoconus Australia
- Macular Disease Foundation of Australia
- Novartis
- Optometry Australia
- Orthoptics Australia
- Retina Australia
- Royal Australian and New Zealand College of Ophthalmologists
- Royal Victorian Eye and Ear Hospital
- School of Optometry and Vision Science – University of NSW
- Sight For All
- The Fred Hollows Foundation
- Vision Australia