

Scoring criteria for FFQ and SDQ-AMD

Question	Description of measure	Scoring, score = response	Total	Evidence
1a. Vegetables	1 serve = 75g or ½ cup cooked or 1 cup raw salad veg	0= 0-2.99 serves / d 1= 3-4.99 serves / d 2 ≥ 5 serves / d	2	This question is based on a validated Q in Australia for national monitoring. Measures all vegetables/salads including potato. Increased consumption of vegetables have been associated with protective effects against AMD(1)(2). Cut point is consistent with the Australia Guide to Healthy Eating (AGHE)(3) serve recommendations of 5 serves/d where 1 serve = ½ cup (75g), hence ≥5 serves/d = 375g. Mediterranean diet index tools e.g. MediCul and MEDAS have used similar cut offs; MediCul cut point ≥ 5 serves/d (as per AGHE serves)(4); MEDAS cut point ≥2 serves/d (where 1 serve = 200g, hence ≥400g/d)(5). AGHE recommends 375g/d , which approximates g/d cut point in MEDAS.
1b. Fruit	1 serve = 150g or 1 cup	0 = 0-0.99 serves / d 1 = 1-1.99 serves / d 2 ≥ 2 serves / d	2	This question is based on a standard question from national surveys in Australia. Cut point includes 2 serves/d recommended by the AGHE(3). Cut point allows for higher fruit intake which has been associated with protective effects against AMD(1,2)
1c. Water	1 serve = 250ml	0 = 0-5.99 serves / d 1 ≥ 6 serves (1.5L) / d	1	Adequate water intake (1.5-1.9L/d) is important as raised plasma osmolality may be associated with increased risk of age-related retinal diseases(6). Adequate intake is also associated with reduced risk of fatal coronary heart disease and dehydration with impaired cognitive performance (7–9) Australian Nutrient Reference Values for adequate intake of water in adults 50+ years of age are 2.1L/d for women, and 2.6L/d for men(10)
2a. Red meat	1 serve = 100-150g Includes beef, veal, lamb, pork, kangaroo	0 = <0.5 serves/wk; >4.5 serves/wk 1 = 3-4.5 serves/wk 2 = 0.5-2.99 serves / wk	2	Fresh red meat intake is associated with a dose-response increase in odds of AMD when consumed ≥ 3 times(11). However, this study adjusted for zinc, which is found in high concentrations in the retina, and included in the AREDS formulation to help reduce the risk of AMD progression(12). Serves are based on commonly consumed portions (100-150g) in Australia rather than the 65g as defined in the AGHE(3).

				AGHE recommends $\leq 455\text{g}$ (3-4.5 serves)/week, and the Australian Heart Foundation recommends $\leq 350\text{g}$ (2.5-3.5 serves)/week(13). Other diet tools have included different cut points e.g. MedDietScore (14) uses cut point $\leq 1/\text{wk}$; MEDLIFE(15) uses cut point $< 2/\text{wk}$; MIND diet (16) allows higher exposure to red meat and meat products < 4 meals/wk.
2b. Processed meat	1 serve = 100-150g e.g. 2 thinner sausages, 4 slices processed meat; 1 meat pie	0 = > 1 serves / wk 1 = 0.5-1 serves / wk 2 = 0- < 0.5 serves / wk	2	Processed meat (as with high red meat intake) has been associated with a dose-response increased risk of early AMD when > 1 serve consumed, with salami/ continental sausage in particular showing strong association with early and late AMD(11). Processed meat is also strongly associated with chronic disease risk and mortality(6). Cut point is consistent with MEDLIFE ≤ 1 serve/wk (15) and 0 times/wk by <i>Ciccarone E et al. (2003)</i> (17). Goulet <i>et al.</i> used cut point < 1 portion (50-100g)/wk(18). This question uses a similar serve size to that for fresh red meat.
2d. Fish	1 serve = 1 small fillet or tin of fish or 200g seafood	0 = 0-0.99 serves / wk 2 = 1-1.99 serves / wk 4 = ≥ 2 serves / wk	4	Fish intake has been associated with a reduced risk of AMD, benefits seen with at least 1 serve/wk with greater benefits found with increasing regular consumption(19). Higher intakes of omega 3 fatty acids have shown an inverse relationship with AMD onset (20), with evidence that higher proportion of DHA to EPA being protective against AMD(21). The Heart Foundation recommends 2-3 serves oily fish/wk for all Australians(13)
3. Legumes	1 serve = 1 cup cooked or 150g	0 = 0-0.99 serves / wk 1 = 1-1.99 serves / wk 2 = ≥ 2 serves / wk	2	Lower GI diets (including legumes) have been associated with a reduced risk of AMD onset and progression(21-23) GLNC recommends legumes are consumed 2-3 times/wk(24). AGHE protein serve (1 cup cooked) rather than vegetable serve (1/2 cup cooked) has been used for legumes as it is more consistent with Australian portions(3)
4. Nuts	1 serve = 30g or 1.5 tablespoons of nut spread	0 = < 1 serves / wk 1 = 1-2.49 serves / wk 2 ≥ 2.5 serves / wk	2	Nut consumption as part of a Mediterranean diet has been shown to be protective against AMD(1), with 1 or more servings per week compared with no intake has also been associated with a decreased risk of AMD progression and may be related to the fatty acid content of nuts,

				<p>although evidence about nut consumption and risk of AMD is limited(19).</p> <p>Mediterranean diet index tools e.g. MEDAS(5) and MediCul(4) have allowed for cut-points of ≥ 3 serves/week due to observational studies showing greater CVD protections with exposure to nuts ≥ 5 serves/wk. Goutlet et al uses a cut point >2 portions/d for both legumes and nuts/seeds(18).</p> <p>AGHE(3) recommends 2 serves/d for women and 2.5 serves/d for men of meat/meat alternatives e.g. nuts (1 serve nuts = 30g).</p>
5. Green vegetables		<p>Only score the dark green leafy type (second part of q.)</p> <p>0 = 0-1.99 times / wk</p> <p>1 = 2-3.99 times / wk</p> <p>2 = ≥ 4 times/ wk</p>	2	<p>Dark green leafy vegetables are rich in carotenoids (e.g. lutein (which are associated with decreased risk of wet AMD. Recommended intake of at least 2-4 serves/wk for carotenoid benefits with increased benefits when consuming up to 2 serves/d (19). In addition to lutein, dark green leafy vegetables also contain nitrate and vitamin K, which provide vascular and cognitive benefits(25,26). Two questions are asked about different types of green vegetables to minimise response bias. Cut point relates to frequency of exposure for most days per week, which is simpler to estimate than quantity consumed. This question and cut-points are similarly used in MediCul(4).</p>
6. Eggs		<p>0 = <1 times / wk; >7 times/ wk</p> <p>1 = >1-1.99 times / wk;</p> <p>>4-7 times/ wk</p> <p>2 = 2-4 times / wk</p>	2	<p>Eggs are a bioavailable source of dietary carotenoids (lutein/zeaxanthin)(27). Moderate egg consumption (2-4 eggs/wk) shown to significantly reduce risk of progression to late AMD after 15 years. Some evidence of protection when 5-6 eggs/wk consumed after 10 years(28).</p> <p>Heart Foundation Australia recommends <7 eggs/wk for people with high cholesterol, heart disease or type 2 diabetes(29).</p> <p>Allowance for up to and including 7 eggs for 1 score for those who do not have the above health problems.</p>
7a. Wholegrains or lower GI (bread as proxy)		<p>0 = white $>$ wholegrain + wholemeal + rye + sourdough;</p>	2	<p>Lower GI diets (e.g. grain bread, sourdough) have been associated with a reduced risk of AMD onset and progression(21–23).</p>

		1 = white is equal to wholegrain + wholemeal + rye + sourdough; 2 = white < wholegrain + wholemeal + rye + sourdough		This question uses bread as a proxy for quality of grains most frequently consumed. Relative frequency is used as it is easier to rate than quantities.
7b. Lower GI cereals		0 = higher GI \geq lower GI 1 = lower GI > higher GI	1	Lower GI diets (e.g. grain bread, sourdough) have been associated with a reduced risk of AMD onset and progression(21–23). This question uses bread as a proxy for quality of grains most frequently consumed. Relative frequency is used as it is easier to rate than quantities.
8a. Biscuits and cakes, ice cream, sugary drinks, takeaway, processed potato		0 = >1 times /d 1 = >0.5 – 1 times /d 2 = \leq 0.5 times /d	2	AGHE allows for discretionary choices in taller or more active people of maximum 2.5 serves/day in men aged 50+ and women up to 70 years of age, and maximum 2 serves/d in women aged 70+ (3). As processed meats and alcohol are not included in this section (and other discretionary items not included in the questionnaire) the cut-offs for these items have been lowered based on the AHS 2011-12(30) where total discretionary foods made up 35% of total energy, with biscuits and cakes (24.3%), ice cream (4.3%), sugary drinks (5.4%), processed potato (as a proxy for takeaway food as well) (4.9%). As these percentages add up to roughly 40% of total discretionary foods, 40% of 2 serves/day = 0.8 serves/day. As AHS' 35% of energy from discretionary foods is high, 40% was applied to the lower AGHE max. recommendation and rounded down for the 0.5 serves/day cut-off.
9. Alcoholic beverages	<i>Note: convert drinks to "standard drinks" before applying rules, see below*</i>	0= >14 standard drinks per week (from question 9b) 1= >7-14 standard drinks per week of	2	Cut point of 7 standard drinks/wk (i.e.1 standard/d) as alcohol consumption of 2 or more standard drinks/d is linked with increased risk of AMD regardless of alcohol type or gender(31–33). Australian guidelines recommend no more than 2 standard drinks/d, where 1 standard drink is 10g alcohol(34)

		any alcohol (from question 9b) 2= NON-DRINKERS (from question 9a) OR 2= 0 to 7 standard drinks per week		
10. Fat types		0 = Others total > olive oil 1 = Others total = olive oil 2= Others total < olive oil	2	ALIENOR study has shown protective effects of olive oil consumption for late AMD and did not find any associations with other fat sources(35). Olive oil is also linked to improving the bioavailability of lutein in lutein-deficient mice(36). Relative frequency of exposure to various fat types used as it is easier to rate than quantifying amounts. This is similarly used in the MediCul tool(4)
TOTAL			30	

***Standard Drink Conversions**

Full Strength Beer (375 ml) = 1.4 standard drinks
 Lite Beer (375 ml) = 0.8 standard drinks
 Red Wine (150 ml) = 1.6 standard drinks
 White Wine/champagne (150 ml) = 1.4 standard drinks
 Spirits (30 ml) = 1 standard drinks

Possible screening description:
 21-30 / 30 = Excellent
 16- 20 / 30 = Good. Keep going!
 10- 15 / 30 = More room to improve
 <10 / 30 = It's time to take action!

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