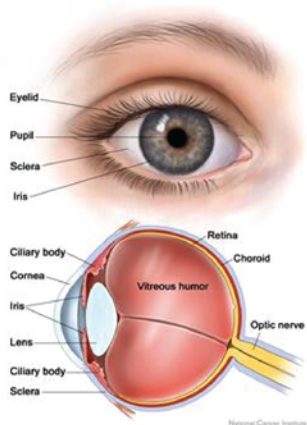
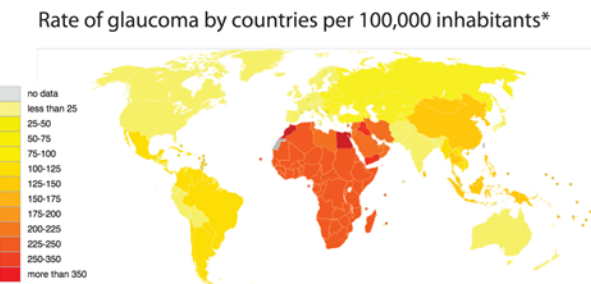


## Glaucoma on a world scale

Glaucoma is an epidemiological challenge affecting ~ 4% of the global population and with an estimated 50% of glaucoma cases remaining undiagnosed.

Glaucoma is not life threatening; it is usually chronic and critically disabling if it is not detected and treated appropriately. The vision loss it causes is permanent and irreversible.

Glaucoma World Map of estimates of death or disability adjusted life year (DALY) – WHO 2002.



## Impact of vision loss on the Australian community\*

- Increases social isolation –
  - Difficulties with daily living increases **two** times
  - Ease of social functioning **reduces by half**
- Increases morbidity –
  - Risk of falls increases **two** times (One in 3 people over the age of 65 experienced a fall at least once a year)
  - Risk of hip fractures increases **four** times
  - Risk of depression increases **three** times (29.7% compared with 8.5% in those with better vision)
- Increases mortality –
  - Risk of death increases **two** times
- Increases risk of driving accidents  
Drivers with poor side vision in both eyes have a crash rate twice that of drivers with normal field of vision\*\*

The direct costs to government for glaucoma eye care & rehabilitation is \$ 320 million / annum \*\*\*

\* Epidemiological statistics from a number of studies including the Centre for Eye Research Australia (CERA), the National Ageing Research Institute & the Blue Mountain Study in NSW  
\*\* Study by Drs Johnson & Keltner, 1983  
\*\*\* Victorian statistics, study conducted by the Centre for Eye Research Australia (CERA), 2001

## Glaucoma examination

Critical - Comprehensive assessment of the health of the optic nerve

Treatment – In the main, glaucoma sufferers control the progression of glaucoma on a daily basis, through eye drops

It is important to instil eye drops correctly to:

- to minimise side effects
- to maximise benefit to the eye

FRIO Eye Drop Wallet maintains eye drops at a constant temperature during travel time



# Beware of the ‘sneak’ thief of sight - glaucoma

## Statistics

The Australian Bureau of Statistics, *National Health Survey: Summary Results 2009* extract indicates long term conditions suffered by people over the age of 45 as reported by individuals in the last national census 2007/8.

ABS: % Extract of Long Term Conditions (a) by Age, Australia 2007/8 \*

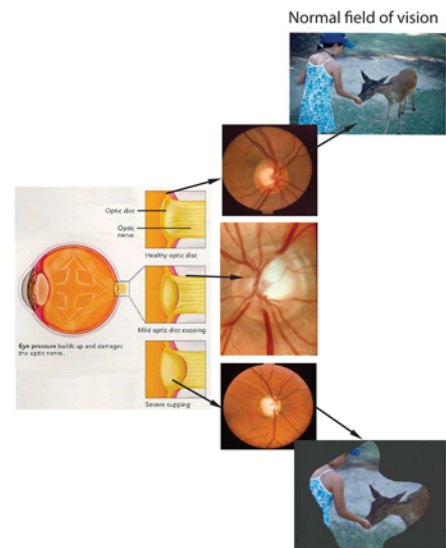
Conditions	45-54	55-64	65-74	75+	Total Persons
Endocrine, nutritional & metabolic diseases:					
Disorders of thyroid gland	71.0	131.3	85.5	73.6	486.4
Diabetes Type I	13.5	4.1	6.3	9.4	81.8
Diabetes Type II	115.2	218.0	195.1	139.1	721.3
High cholesterol	214.2	352.0	267.9	181.0	1,179.9
Total endocrine, nutritional & metabolic diseases	377.4	610.9	484.1	363.0	2,263.9
Total mental & behavioural problems	377.8	327.6	132.4	116.6	2,309.8
Total diseases of the nervous system	299.3	183.5	76.0	77.3	1,456.6
Diseases of the eye & adnexa:					
Cataract	13.6	59.9	105.3	145.0	338.0
Glaucoma	19.9	34.1	60.5	71.9	190.9
Macular degeneration	13.4	24.6	41.6	103.9	191.4
Short sightedness	916.1	881.9	537.8	351.1	4,686.8
Long sightedness	1,428.8	1,392.3	814.2	609.4	5,294.4
Blindness	16.9	18.6	18.3	33.6	120.4
Loss of vision or visual disturbances	76.5	59.4	60.9	44.7	452.5
Total disease of the eye & adnexa	2,294.3	2,290.8	1,373.2	1,075.3	10,993.3
Total diseases of the ear & mastoid	434.9	575.0	434.8	815.0	2,671.1
Disease of circulatory system:					
Heart, stroke & vascular diseases	126.8	242.9	265.0	349.5	1,079.1
Total disease of circulatory system	534.1	803.6	694.3	717.7	3,383.3
Total diseases of the respiratory system	854.7	671.6	427.1	335.0	5,662.8
Total diseases of the digestive system	207.9	269.1	184.4	173.0	1,306.4
Total arthritis	540.6	670.0	652.1	608.8	3,135.1
Back pain/muscle disorders	691.1	536.5	294.2	216.9	2,446.4
Osteoporosis	69.9	170.5	164.6	246.7	692.3
Incontinence	36.2	39.2	40.2	72.0	216.1
Allergies (undefined)	156.1	100.4	69.8	42.7	1,029.5

(a) relates to conditions which have lasted or are expected to last for 6 months or more  
\* released 29<sup>th</sup> August, 2009

## Definition of glaucoma

The glaucomas are eye diseases in which a progressive loss of retinal ganglion cells is characterised by a recognisable pattern of both visual functional loss and optic nerve head pallor and excavation.

For many glaucomas the loss of retinal ganglion cells is due to an increase in intraocular pressure.



Restricted vision loss = tunnelling effect

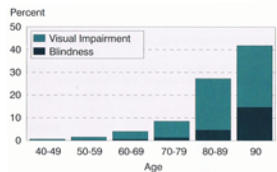
## Issues of compliance

- Coming to terms with the diagnosis
- Disbelief, particularly for those with normal field of vision
- A new lifestyle discipline and commitment
- Undertaking regular reviews and testing, treatment plan modifications
- The need to understand the condition
- Optic nerve degenerative progression
- Treatment is not a cure but a daily control
- Treatment aims at slow down the progression, it does not improve eyesight nor repair vision loss cause by optic nerve damage
- Unable to self monitor treatment progress (frustration for some people)
- Difficulty in self administering eye drops
- Language barriers
- Overall cost: doctor's visits, medication, additional imaging services

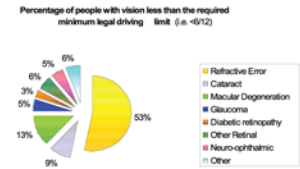
EARLY DETECTION, PROPER TREATMENT MAKES FOR A WELL INFORMED, CONFIDENT & COMPLIANT PATIENT

## Vision impairment statistics in Australia\*

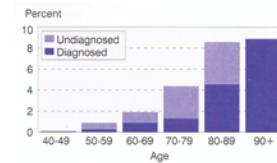
- Visual loss  $\uparrow$  3 folds with each decade of age after the age of 40.



- Over 80% of vision loss is caused by 5 conditions: refractive error; cataract; aged-related macular degeneration; glaucoma and diabetic retinopathy.



- By the age of 90, one in 10 people will have glaucoma.



In 2008, the National Health Statistics indicated that 190,900 people (85,500 males, 105,400 females) reported to have glaucoma. Only half of people with glaucoma have been diagnosed\*\*

Based on epidemiological research studies conducted by the \*Centre of Eye Research Australia, 2001 report and the \*\* Blue Mountain Study, 1996

## Interesting facts

- 3/4 of Australians are unaware that glaucoma can cause permanent vision loss;
- 75% of Australians are unaware that glaucoma is blinding;
- Seven in 10 Australians say they lack knowledge on glaucoma treatment;
- Attitude of the surveyed population:
- 1/4 believe glaucoma can be cured;
- 50% believe that there is no reason to have an eye check without symptoms;
- 1/3 never thinks about glaucoma

Obtained from Pfizer Australia Health Report Survey, May 2004 (1496 National respondent)

There is a general assumption in the community that glaucoma is an older person's eye disease. However, in 1996, a survey of glaucoma sufferers from Glaucoma Australia's membership revealed that one in 10 people were diagnosed before the age of 40.

A study conducted by CERA in 1998, indicated that rural males are more likely to suffer an eye injury than their metropolitan counterpart (42% versus 30%)

A recent Victorian study\* reported that people in rural areas are almost twice as likely to have never seen an eye-care provider as their urban counterparts\*

\* Keefe, Jill E; Welh, LeAnn M; McCarty, Cathy A; and Taylor, Hugh R. 2002

## Glaucoma Australia's role & its services

Working to minimise sight disability from glaucoma

Glaucoma Australia is the national, not-for-profit organisation solely dedicated to providing education services to raise awareness about the serious and common eye disease – glaucoma; to support glaucoma sufferers and raise funds for glaucoma research in Australia

Its services incorporate:

- counselling to sufferers;
- patient education and awareness sessions
- dissemination of literature/information on glaucoma and specific topics
- a range of 20 language resources on glaucoma;
- support groups around Australia
- production and dissemination of Glaucoma News;
- National Awareness Campaigns to increase awareness of glaucoma.



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Acknowledgement of graphs & photos: (Dr Ivan Goldberg, ABS report 2009, Pfizer Australia Survey, 2004, WHO 2002, Keefe, Jill E; Welh, LeAnn M; McCarty, Cathy A; and Taylor, Hugh R. 2002, Centre of Eye Research Australia, 2001, The National Ageing Research Institute 2001, The Blue Mountain Study, 1996, Drs Johnson & Keltner, 1983)