

LIVING WELL WITH GLAUCOMA

Elevating your treatment experience



Being diagnosed with glaucoma can be overwhelming. However, support from family and small lifestyle changes can help you live a fulfilling life. This booklet offers practical tips to help ease your journey.

The English version of this booklet has been approved and endorsed by the Asia-Pacific Glaucoma Society (APGS). The localized version is a translation based on the English version.

APGS
Asia-Pacific Glaucoma Society

Santen

Practical lifestyle tips for better eye health



Stay Active

Regular exercise has been shown to have neuroprotective benefits that can aid in glaucoma management.¹ Aim for at least 20 minutes of brisk walking four times a week.¹ If doing yoga exercises, avoid head-down postures which may increase eye pressure.²



Watch your Diet

Green leafy vegetables and colored fruits are rich in antioxidants and may positively impact eye health.³ In contrast, excessive caffeine intake (more than 3 cups of coffee or tea per day) may cause a temporary increase in eye pressure.^{4,5}



Address Sleep Apnea

Sleep apnea is linked to a worsening of glaucoma. If you have sleep issues, speak to your doctor, as this will form part of your glaucoma management.⁶



Avoid Smoking Cigarettes

Smoking is associated with higher eye pressure and a faster progression of glaucoma.⁷

Glaucoma management tips



Keep Up with Regular Eye Exams

Regular appointments allow your doctor to monitor your situation and adjust treatment if necessary.⁸



Apply Medications as Directed

Follow the medication timings as prescribed by your doctor. Incorporate your eye drops into your daily routine, such as after dinner or a bath. You can set reminders on your mobile or alarm clock. If you face challenges or side effects, discuss them with your doctor to explore alternatives.⁸

TIPS | For living well with glaucoma



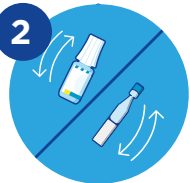
Be proactive about your eye health.

People with glaucoma can live fulfilling lives without the fear of blindness. Early detection, regular follow-ups, and active participation in your treatment and progress are key.⁸

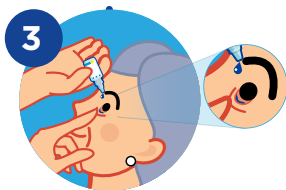


Eye drops administration tips⁹⁻¹²

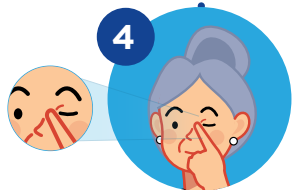
Wash your hands thoroughly with soap and water.



Shake the eye drop bottle or tube gently.



Tilt your head backward or lie on a bed. Look upward and gently pull down your lower eyelid to form a pocket. **Instill the eye drops into the pocket.**



Close your eyes and gently **press on the inner corner** near your nose for 2 minutes.

Wipe excess liquid with a tissue to decrease potential side effects on the surrounding skin.



For bottle medication: Recap after use and do not wash the tip.
For preservative-free medication: Dispose the used tube according to the drug usage instructions.

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Wait Between Drops:

If using multiple eye drops, wait at least 5 minutes between different medications to ensure proper absorption.⁹



Get Help if Needed:

Don't hesitate to ask family members to assist you with applying eye drops if necessary.



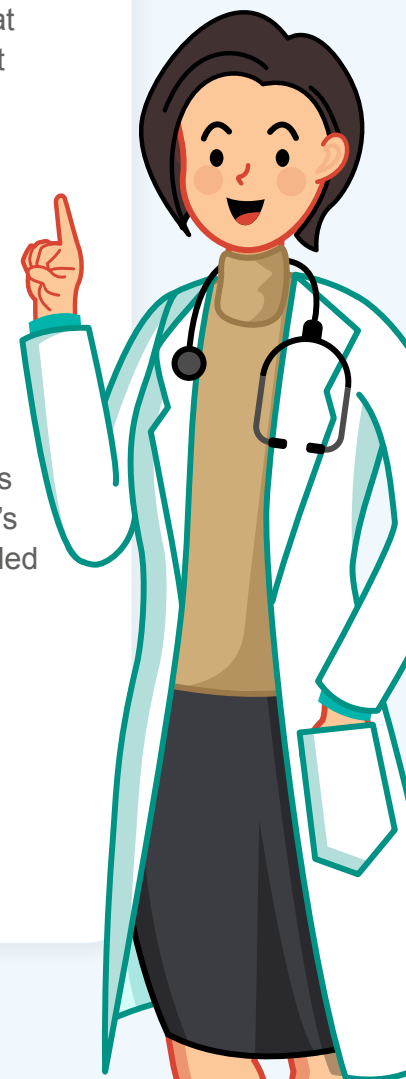
Missed Dose Protocol:

If you miss a dose, instill drops as soon as you remember, unless it's almost time for your next scheduled dose. In that case, skip the missed dose.



Contact Lenses:

Remove contact lenses before instilling glaucoma medications and wait 15-20 minutes before reinserting.^{11,12}



What is the role of eye drops in glaucoma treatment?

Glaucoma eye drops are crucial for lowering eye pressure and preserving vision.¹³ Fortunately, the wide range of treatment options make glaucoma manageable. It is important to **discuss glaucoma management options with your doctor, to determine which medications or other treatment options best fit your lifestyle.**

What are the potential side effects?

Some glaucoma medications can cause side effects such as ocular surface disease, cosmetic changes around the eyes, and temporary blurring of vision.^{13,14} In the following section, we will discuss two common side effects and how best to manage them.



Ocular surface disease (OSD)

What is it?

A condition characterized by alterations to the eye surface, leading to **discomfort and dry eye.**¹⁵

How common is it?

~50%

of glaucoma patients have OSD¹⁴



Prostaglandin-associated periorbitopathy syndrome (PAPS)

A range of visible changes around the eyes caused by **prostaglandin analogues (PGAs)** glaucoma eye drops

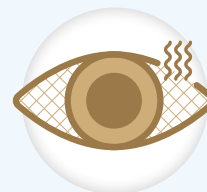
~50%

of PGAs users develop PAPS¹⁶

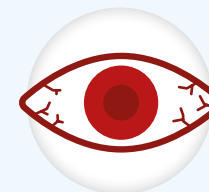
Ocular surface disease (OSD) and preservative damage

Glaucoma medications, particularly those with preservatives are known to increase the risk of OSD.^{14,15}

Symptoms of OSD includes:¹⁷



Dryness



Redness



Discomfort

How can a treatment with less preservatives help?

Preservatives are commonly used in glaucoma medications to prevent bacteria from growing in the bottle. But higher concentrations of preservatives can cause dry eye and irritation, especially with long-term use.¹⁷ If you have OSD or are at high risk of it, formulas with **low-preservative concentration** or entirely **preservative-free eye drops** may be a better option.

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Discuss low preservative concentration or preservative-free glaucoma eye drop with your doctor.

If you are experiencing eye redness and discomfort from your eye drops, it is important to discuss this with your eye doctor.



Prostaglandin-associated periorbitopathy syndrome (PAPS) and its impact

PAPS refers to a collection of **visible changes around the eyes** associated with the **use of prostaglandin analogues (PGAs)** such as tafluprost, latanoprost, bimatoprost, and travoprost. While the exact cause of PAPS is not fully understood, it is believed that eye drops are absorbed by both the eye and surrounding tissue, leading to various symptoms:^{16,17}



Deepening of the upper eyelid groove



Darkening around the eyes



Excessive eyelash growth



Drooping of upper eyelid

These cosmetic changes may **impact a person's appearance** and self-perception, **potentially affecting treatment adherence**. Additionally, PAPS can cause tight eyelids, which can **hinder accurate eye pressure readings** and **affect the outcomes of future glaucoma surgeries**.

How can switching treatments help?

Your doctor may have prescribed a **PGA** because they are a **reliable and effective option** for managing glaucoma.^{17,18}

However, if you have concerns about PAPS, don't hesitate to reach out to your doctor; **there are options to adjust your treatment plan to better suit your needs**.

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Be mindful when applying PGA eye drops.

If you are using a PGA, wipe excess drops with a tissue after administration to reduce medication side effects and potential skin color changes around the eye.



Discuss alternative treatment options with your doctor.

If you are experiencing PAPS or have concerns about it, discuss it with your eye doctor.



Ocular surface disease checklist*19

Please answer the following questions by checking the box that best represents your answer. Select only one answer per question.

1. Report the type of SYMPTOMS you experience and when they occur:

Symptoms	At this visit		Within past 72 hours		Within past 3 months	
	Yes	No	Yes	No	Yes	No
Dryness, Grittiness or Scratchiness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soreness or Irritation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Burning or Watering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eye Fatigue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Report the FREQUENCY of your symptoms using the rating list below:

Symptoms	Never	Sometimes	Often	Constant
Dryness, Grittiness or Scratchiness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soreness or Irritation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Burning or Watering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eye Fatigue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Report the SEVERITY of your symptoms using the rating list below:

Symptoms	No Problems	Tolerable	Uncomfortable	Bothersome	Intolerable
Dryness, Grittiness or Scratchiness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soreness or Irritation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Burning or Watering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eye Fatigue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Do you use eye drops for lubrication?

Yes ☐ No ☐ If yes, how often?

*Adapted from the **Standard Patient Evaluation of Eye Dryness (SPEED)** questionnaire. It is one tool we use to help assess your dry eye symptoms and does not rule out a clinical diagnosis of dry eye. **0-4** you are experiencing MILD dry eye symptoms. **5-7** you are experiencing MODERATE dry eye symptoms. **8+** you are experiencing SEVERE dry eye symptoms.

Prostaglandin-associated periorbitopathy syndrome (PAPS) checklist20


Please answer the following questions by checking the box that best represents your answer. Select all that apply.

Are you noticing any of the following symptoms?




Excessive eyelash growth

☐




Darkening around the eyes

☐



Fat loss around the eye

☐



Deepening of the upper eyelid groove

☐

Do you have any concerns about changes in your eyes or the surrounding area? (e.g., dark circles, eyelid changes, or redness)

No concern	Slight concern	Moderate concern	Strong concern	Very strong concern
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you were to face these changes, what impact would they have on your daily life?

No impact	Slight impact	Moderate impact	Strong impact	Very strong impact
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you notice any PAPS symptoms around your eye(s) or are concerned that these changes might affect your quality of life, please discuss your concerns with doctor proactively.

Images provided by Dr. Chien-Chia Su (Taiwan), Dr. Grace D. Grozman (Philippine), Prof. Makoto Aihara (Japan) and Dr. Yanin Suwan (Thailand). All images were granted permission for use, and informed consent was obtained from the patients.

YOU CAN LIVE WELL WITH GLAUCOMA



We hope this booklet provides you the knowledge and confidence to manage your glaucoma, so you can continue living a fulfilling daily life. **If you have questions or concerns, speak to your doctor.** Treatment plans should be individualized and your doctor is best suited to give you the right guidance.

Disclaimer: This booklet is intended only for patients diagnosed with glaucoma and should be distributed by healthcare professionals. The contents are for educational purposes only.

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References: 1. Glaucoma Research Foundation. Aerobic Exercise for Neuroprotection. Available at: <https://glaucoma.org/articles/aerobic-exercise-for-neuroprotection>. Accessed November 2024. 2. Glaucoma Research Foundation. Is doing Yoga Safe If I have Glaucoma. Available at: <https://glaucoma.org/articles/is-doing-yoga-safe-if-i-have-glaucoma>. Accessed January 2025. 3. Glaucoma Research Foundation. How to Lower Intraocular Eye Pressure. Available at: <https://glaucoma.org/articles/how-to-lower-intraocular-eye-pressure>. Accessed January 2025. 4. Glaucoma Australia. Lifestyle, Diet and Exercise. Available at: <https://glaucoma.org.au/i-have-glaucoma/living-with-glaucoma/lifestyle-diet-and-exercise>. Accessed January 2025. 5. Avisar R, et al. Effect of Coffee Consumption on Intraocular Pressure. *Annals of Pharmacotherapy*. 2002;36(6):992-995. 6. American Academy of Ophthalmology. Sleep Apnea and Glaucoma. Available at: <https://www.aao.org/eye-health/tips-prevention/obstructive-sleep-apnea-glaucoma>. Accessed November 2024. 7. Glaucoma Research Foundation. Exercise, Diet and Other Lifestyle Changes for People Living with Glaucoma. Available at: <https://glaucoma.org/articles/exercise-diet-and-other-lifestyle-changes-for-people-living-with-glaucoma>. Accessed January 2025. 8. Glaucoma Research Foundation. Living Well with Glaucoma. Available at: <https://glaucoma.org/understanding-glaucoma/life-with-glaucoma>. Accessed November 2024. 9. National Eye Institute. How to put in Eye Drops. Available at: <https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/glaucoma/glaucoma-medicines/how-put-eye-drops>. Accessed January 2025. 10. Glaucoma Research Foundation. Is There A Best Technique For Putting In Eye Drops? Available at: <https://glaucoma.org/articles/is-there-a-best-technique-for-putting-in-eye-drops>. Accessed January 2025. 11. Vision Eye Institute. Why is it important to use your eye drops correctly. Available at: <https://visioneyeinstitute.com.au/eyematters/why-its-important-to-use-your-eye-drops-correctly/#:~:text=Also%20make%20sure%20to%20wipe%20away%20any%20excess,the%20eye%20may%20contaminate%20the%20eye%20drop%20solution>. Accessed January 2025. 12. Glaucoma Australia. Do's and Don'ts of Glaucoma Eye Drops. Available at: <https://glaucoma.org.au/news-details/news/dos-and-donts-of-glaucoma-eye-drops>. Accessed January 2025. 13. American Academy of Ophthalmology. What is Glaucoma? Available at: <https://www.aao.org/eye-health/diseases/what-is-glaucoma>. Accessed November 2024. 14. Boso ALM, et al. *Clin Ophthalmol* 2020;14:103–11. 15. Sarimiye TF, et al. *JOECSA* 2015; 15(01). Retrieved from <https://joecsa.coecsa.org/index.php/joecsa/article/view/236>. 16. Tanito M et al. *Medicine* 2021;100:34(e26874). 17. Radcliffe NM, et al. *Ophthalmol Ther* 2023;12:2823–39. 18. Weinreb RN, et al. *JAMA* 2014;311(18):1901–11. 19. SPEED Questionnaire. Available at: <https://www.reviewofoptometry.com/cmsdocuments/2022/05/speed-questionnaire.pdf>. Accessed November 2024. 20. Santen Pharmaceutical Asia Pte. Ltd. *PAPS Guidebook*. 2022.