

Select a tint/filter for your patient



ASK IN ORDER	IF YES, OFFER	WHY IT WORKS	SAY IT
1 Will these lenses be used at night?	☐ Clear with an anti-reflective (AR) coating and an up-to-date prescription. AVOID Yellow night-driving lenses. ¹ Any lens under 75%. ²	At night the retina receives far less light, so acuity drops. Any tint further reduces light, costing more vision than it saves in glare. ³ An AR coating instead cuts glare without dimming the road. ³	<i>"Any tint takes away light your eyes need at night. This coating cuts the glare instead."</i>
2 Color deficient, or a pilot?	☐ Neutral gray only. AVOID Brown or green for color deficiency. Polarized or photochromic for pilots. ⁴	A gray lens darkens every color about equally, so traffic signals keep their familiar colors. ³ Colored tints shift those colors, causing signal errors and slower responses in color-deficient drivers. ⁵	<i>"Gray keeps red, yellow and green looking the way you're used to at a traffic light."</i>
3 Light sensitivity, migraine, head injury or low vision?	Refer to the OD/MD first , then trial the filter beside a matched gray. ⁶ AVOID Promising the tint will treat it.	Light sensitivity is a symptom, so the eye doctor must identify its cause first. Trial against a matched gray, because in studies a gray of the same darkness often helped as much. ^{7,8}	<i>"Some people find this tint more comfortable. Let's compare with gray of the same darkness and see if you do, too."</i>
4 Glare off water, snow or the road?	☐ Polarized gray or brown, category 3 , after the demo card. AVOID Polarized if they rely on phone or head-up displays. ⁹	Reflected glare is mostly horizontally polarized, so a polarized lens blocks it and passes most of the scene. A plain tint dims glare and scene alike. ³ Patients who see a demo card rarely go back. ¹⁰	<i>"Regular sunglasses just make glare darker. Polarized lenses take most of it away."</i>
5 Golf or shooting?	☐ Golf: amber, not polarized. ☐ Clays: vermilion. AVOID Promising better performance. ¹¹	A vermilion lens darkens sky and trees more than an orange clay, so the clay stands out. ¹² Skip polarization for golf lenses because it removes the sheen golfers look for on a green. ¹³	<i>"This tint helps you pick the target out of the background in the light it's made for."</i>
6 Skiing or snowboarding?	☐ Sunny: category 3 wraparound; 4 at altitude. ¹⁴ ☐ Overcast: light amber. ¹⁴ AVOID Polarized, which dims unevenly as they lean into turns. ³	Snow reflects 85 to 95% of light, and UV climbs with altitude, so sunny days need a dark wraparound lens that blocks all UV. ³ Overcast skies erase the shadows that show bumps in the snow ("flat light"), so a lighter lens lets in more of what light remains. ¹⁵	<i>"Wear the dark lens in sun, but swap to the light one when the sky goes gray."</i>
7 Screens, or winding down at night?	☐ Screens: clear with AR, current near prescription. ☐ Evening: orange at bedtime. AVOID Orange filters for driving.	Blue-light lenses did not reduce eye strain across 17 trials. ¹⁶ Evening orange lenses kept melatonin up under bright light, but sleep trials have not shown better sleep. ^{17,18}	<i>"The right reading prescription does more for screens than any filter."</i>
8 One pair for indoors and out?	☐ Photochromic , plus a sun pair for heavy drivers. AVOID Photochromics as a driver's or pilot's only sun pair. ⁴	Photochromics darken only in UV light. A windshield blocks UV, so most stay fairly light in the car. ^{3,19} Cold makes them darker and slower to clear. ²⁰	<i>"These save you swapping glasses at every door. Keep sunglasses for driving."</i>
✓ None of the above	☐ Gray, category 2 to 3. Brown or G-15 by preference. AVOID Category 4 for driving. ² Unlabeled "gas-station" pairs (a quarter failed testing). ²¹	Gray is the default because it changes colors the least. Brown suits patients who like a warmer view on hazy days. ³ Without back-side AR, a dark lens reflects glare from behind into the eye. ³	<i>"Gray keeps colors true. If you like a warmer look on hazy days, try brown."</i>

Know the filters

The background that lets you explain a choice and sound informed.



Gray is the yardstick

Judge every colored tint against a gray lens of the same darkness. Across dozens of studies, yellow lenses did about as well as a matched gray.³ In another study, darkness alone eased glare and sped recovery after bright light.²² So a colored tint earns its place through comfort the patient can feel.

CATEGORY	0	1	2	3	4
LIGHT PASSED	80 to 100%	43 to 80%	18 to 43%	8 to 18%	3 to 8%

Light-sensitivity filters

Rose and notch lenses target blue-green light near 480 nm, because the retina's melanopsin cells respond most to it and feed the pathway that makes light worsen a headache.^{23,24} But some migraine light sensitivity starts in the brain, which no lens can reach.²⁵

FL-41

FL-41 is a rose tint that absorbs most light from 480 to 520 nm.²⁶ In 20 children, headaches fell from 6.2 to 1.6 a month with FL-41,²⁷ but in adults a matched gray eased discomfort as much.⁷

Avulux

Avulux is an FDA-AUTHORIZED lens that filters light near 480 and 590 nm, sold over the counter for migraine light sensitivity from age 12.²⁸ The maker's trial missed all six of its planned outcomes.²⁹ Its benefits appeared only in post-hoc analyses.³⁰

Other notch lenses

A 480 nm film did no better than a placebo lens in 37 migraine patients.³¹ In blepharospasm, notch films cut blinking where FL-41 and gray did not.³²

Chosen-color tints

Precision and Irlen tints use a hue picked for each patient, but the pick may not matter. Eleven of 21 people picked a different color 25 days later,³³ and in another trial a mismatched tint worked as well.³⁴

WHERE TO START

Migraine

FL-41 for several weeks, with a headache diary.^{27,7}

Blepharospasm

FL-41, counting blinks in bright light.²⁶

Concussion

The lightest gray that helps, lightened over months.^{35,36}

Low-vision glare

Amber to orange, cutting below about 511 nm, tested outdoors.^{37,38}

Order it right

- Order by light passed, because lab shorthand such as “85% gray” can mean 85% absorbed.³⁹
- Tint the lens before the AR coating goes on.³
- Polycarbonate takes dye only in its coating, so it may never get as dark as CR-39.^{40,39}
- Dye lots vary, so replace both lenses when matching a tint.^{41,40}

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