

12 Steps to Successful Prosthetic Soft Contact Lens Fitting

BY MITCHELL CASSEL, O.D.

Thanks to technological advances in color matching and application processes, you can obtain more natural coloring and detail with prosthetic soft contact lenses.



Dr. Cassel has a contact lens practice in New York City where he provides special effect custom contact lenses to the motion picture, TV and video industries. He owns an optical boutique in Rockefeller Center and is president of Custom Color Contacts, a soft prosthetic contact lens company.

Most eyecare professionals are occasionally confronted with the task of prescribing a soft contact lens for a patient who needs color added for therapeutic or cosmetic purposes. With your knowledge and expertise in fitting contact lenses and a little creativity, you will be successful in your next soft prosthetic lens case.

STEP 1: CHOOSE YOUR MATERIAL

Is a soft or hard material the correct prosthetic choice for your patient's eye diagnosis? Is the cornea intact and the globe of the eye capable of being fit for a soft lens? Should you consider a hard scleral shell? You now have more choices of soft lens materials to help maximize comfort, vision (if needed) and cosmetic benefits, as opposed to years ago when a hard scleral lens was the only option available.

STEP 2: DECIDE ON TRANSPARENT VS. OPAQUE

There are several techniques for applying color to lenses to create more natural-looking eyes. Soft lenses will take transparent or opaque coloring. Transparent tinting is useful to conceal mild disfigurements, overlap eye color for heterochromia and therapeutically aid in color deficiency.

Opaque lenses cover the entire eye to mask deformities, restructure iris deficiencies, recreate abnormal eye structures to form normal pupil openings, occlude pupils, cosmetically enhance misdirected eyes to appear straight and normal, and create iris coloring for albinism, coloboma (Figs. 1 & 2) and other diseases.

TABLE 1: PROSTHETIC COLOR SOFT CONTACT LENS COMPANIES

	Opaque Designs	Transparent Designs	Opaque w/Detail or Custom Coloring	Laminated for Natural Depth	Supply Lens to Company	Black Pupil Designs	Toric Opaques	Custom Measurements for Iris/Pupil
Adventures in Color (800) 537-2845	✓ minimal detail		✓ minimal detail		✓	✓		✓
Alden (800) 253-3669		✓				✓		✓
CIBA Vision (800) 241-5999	✓ minimal colors no detail	✓						
Crystal Reflections (800) 807-8722		✓			✓	✓		✓
Custom Color Contacts (800) 598-2020	✓ detailed, natural coloring		✓	✓		✓	✓	✓
Kontur (800) 227-1320	✓ minimal detail	✓				✓	✓ solid colors no detail	✓
Narcissus (415) 992-8924	✓ photo-graphic process		✓		✓	✓		✓
Softchrome (510) 743-1285		✓			✓	✓		✓
Wesley Jessen (800) 488-6859	✓ minimal colors & detail	✓ enhancers				✓	✓	✓

STEP 3: DETERMINE WHAT THE PATIENT WANTS TO ACHIEVE

Be aware of the patient's needs and be sure you understand his or her expectations. It's important to determine if the patient wants better vision, cosmesis or both. Avoid misunderstandings by informing the patient what you can and cannot achieve with a prosthetic lens before you begin the fitting.

STEP 4: BE AWARE OF THE PATIENT'S EMOTIONAL STATUS

A disfigured eye from recent trauma or sudden

diplopia from systemic complications can be more alarming and upsetting to a patient than a congenital problem. You may be dealing with patients who have very low self-esteem and are insecure about their appearance. There are sometimes obvious signs such as hats, dark sunglasses and hairstyles that are all used to conceal eye defects.

Many of these patients are coming to you with the desperate hope of regaining what they lost. Although it's important to tell them that this is not entirely possible, you should also reassure them that new technology pro-

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vides better results for comfort, vision and natural coloring and details.

STEP 5: KNOW YOUR RESOURCES

You should be comfortable with all of the available products and the reasons to choose them before ordering (Table 1). Most companies will provide a sample lens so you can view it and become familiar with their products. Delivery time, return policies and warranties are all important issues to discuss with the manufacturer prior to placing your order.

REASONS TO FIT A SOFT PROSTHETIC CONTACT LENS

- | | |
|--|----------------------|
| ■ Aniridia | ■ Pthisis bulbi |
| ■ Iridoplegia | ■ Cataracts |
| ■ Albinism | ■ Diplopia |
| ■ Traumatic & Postsurgical Complications | ■ Tropia |
| ■ Coloboma | ■ Heterochromia |
| | ■ Amblyopia Training |
| | ■ Color Deficiency |

STEP 6: EXPLAIN THE OPTIONS

Depending on the reason your patient needs a prosthetic lens, various levels from standard, inexpensive tinting to more customized and costly manufacturing techniques are available. It's important to make the patient aware of these options and of the benefits and limitations that various soft prosthetic materials offer.

Most companies have standard, uniform tinting processes where the final lens appears flat, without much depth or detail. This may be all you need for a successful fit with certain eye disorders or expense limitations. Some companies will tint or apply an opaque process to a standard, clear soft lens (Narcissus). However, if natural detail, coloring and depth with a laminated process is needed, a lens will usually be custom-made (Custom Color Contacts).

Duplicating from standard opaque lenses, such as those manufactured by Wesley Jessen and Kontur, makes reordering easy and accurate. Most companies, however, can make additional lenses with similar coloring and specifications.

Many companies can vary the iris and the pupil diameter to your required measurements, and all can provide an occluded black pupil. An opaque black pupil rather than a tinted dark pupil is recommended for amblyopia therapy and for patients who are very sensitive to light.

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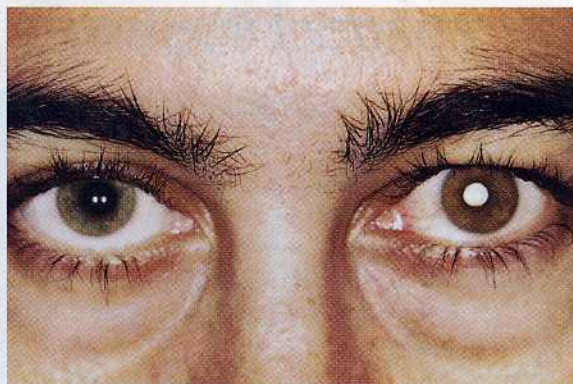
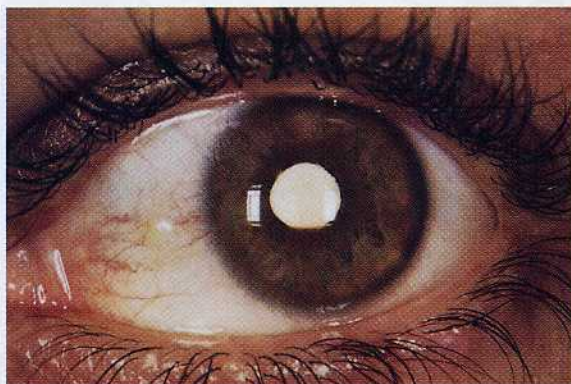


FIG. 1: CONGENITAL LENS COLOBOMA, NO VISION OS. NOTE DIFFERENCE IN IRIS COLOR.

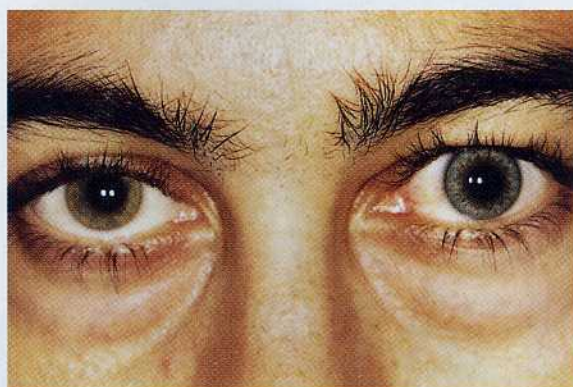


FIG. 2: FINAL LENS (CUSTOM COLOR CONTACTS) PROVIDES FINE DETAIL AND COLOR.

STEP 7: DISCUSS THE COST

Many patients who use prosthetic lenses for therapeutic purposes are reimbursed under the special procedure code #92499. Costs will vary depending on whether a lens is standard or custom-made.

STEP 8: BE AWARE OF THE DELIVERY TIME

Transparent and opaque lenses can take anywhere from a few days to several months for delivery. Be aware of your patient's needs and proceed accordingly.

STEP 9: NOTE THE PATIENT'S HISTORY

Your initial history should include the following:

- Is the condition congenital or a newly acquired problem?
- Does the patient expect immediate relief, or can he wait a few weeks for a lens?
- What lens types or companies has the patient used in the past?

STEP 10: TAKING MEASUREMENTS

Record the following:

Pupil size — Pupils can be manufactured in half-millimeter increments. Measure the pupil in normal illumination with a pupil-gauged ruler for faster and more accurate findings. Use a Burton lamp to enhance the size of a pupil on a dark brown iris. Be sure to indicate if the patient needs a clear pupil or a black occluded pupil. When ordering a prosthetic contact lens to treat diplopia, measure the pupil in dim illumination to note the maximum size needed to prevent any light from entering the eye.

Iris Diameter — Accurate measurements in half-millimeter increments will ensure total coverage of any noticeable disfigurement or existing iris pigment (measure from a healthy eye, if possible). It's important that the eyes match in size to maximize the overall cosmetic results. When fitting a patient with aniridia, use a custom opaque lens to recreate the absent pigment. Your mea-

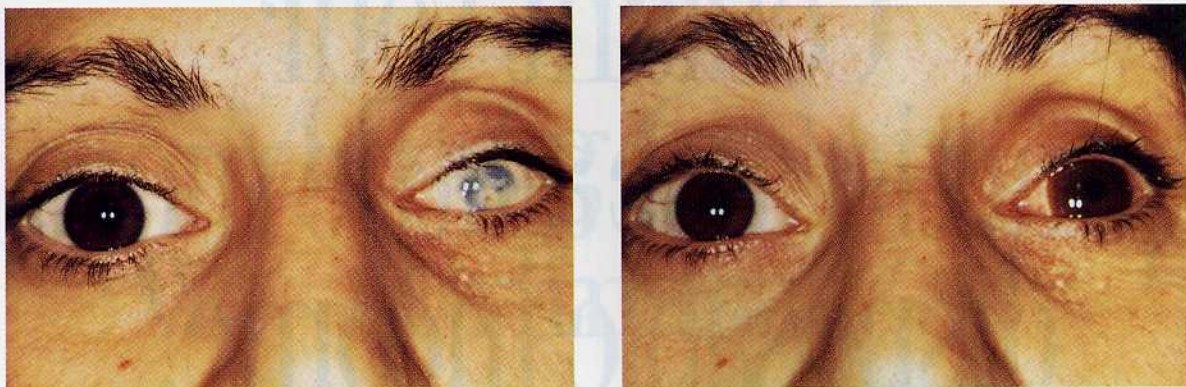


FIG. 3: TRANSPARENT BROWN LENS SATISFACTORILY CONCEALS LEUKOCORIA DEFECT FROM INJURY.

surement should anticipate total coverage of the eye to prevent photophobia. If the patient is extremely light-sensitive, note this on the order form. Black opaquing on the back surface can help prevent light sensitivity (Custom Color Contacts, Narcissus).

Base Curve — Many patients have an intact cornea where proper K readings can be recorded. However, patients with disfigured, scarred corneas can be quite difficult to measure (Fig. 3). Use a trial lens from inventory to help determine base curve. I recommend using Sunsoft, Coast or Kontur lenses (8.3mm, 8.6mm, 8.9mm base curves, 15mm diameter) as initial trial lenses to help evaluate movement. In selecting a base curve, remember that the lens must demonstrate some movement to prevent limbal compression.

Lid Aperture — Note the lid aperture and use the largest lens design you can without compromising corneal health. A large diameter lens will ensure better centration for maximum therapeutic and cosmetic results.

Prescription (if needed) — Use the spherical equivalent to determine the exact contact lens power. Several companies will tint toric designs with transparent colors. Toric opaque tinted lenses are available from Custom Color Contacts and Wesley Jessen.

Eye Health — Check for the usual contraindications to contact lens wear, especially dry eye symptoms. Also, note any subtle changes around the iris, including arcus senilis, that might need to be custom-colored onto a prosthetic lens.

Color Matching — This is the most important measurement for a prosthetic contact lens. Take accurate photographs (or have them done professionally, if possible) to record the exact color of the iris. The most difficult color matchings are the lighter blues and greens

because the eye is more translucent and color changes drastically with varying lighting conditions. The easiest colors to duplicate are the brown eyes because iris detail is less noticeable.

Never send slides to match eye color because the color interpretation will vary depending on the amount of light that is used to illuminate the slide.

Polaroid's newest camera, the Macro 5 SLR for medical photography, will instantly photograph accurate iris colors and details at various magnifications. Also, Nissel has color chips that can be used for iris color matching, and American Optical has scleral shells with iris coloring. Provide as much information as you can to your contact lens company to enable it to provide the best custom lens possible.

STEP 11: ORDERING THE LENS

Provide all pertinent data on the manufacturer's order form, including any medications the patient is taking or dry eye problems you've detected. Include photographs and color chips as well.

STEP 12: DISPENSING THE LENS

Make sure the patient understands that this contact lens is a medical device that requires special care and handling. Proper education on cleaning procedures, as well as lens insertion and removal is important. Note that hydrogen peroxide-based solutions may cause some materials to fade, so it's best to check with each company individually for lens care recommendations.

From my experience, several preservatives from various disinfection solutions discolor and fade lenses when stored. Laminated opaque lenses are less apt to discolor because the lens is bonded between layers to ensure natural, consistent coloring. **CLS**