

## Contact Lens Designs

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- **Daily wear** lenses are soft contacts that are removed nightly as they often don't allow enough oxygen to the cornea to permit overnight wear. They are usually reused until they need to be replaced. Typically they last 8-18 months. Brand examples: Ultraflex, Cibasoft, Criterion, Durasoft 2.
- **Extended wear** contact lenses are soft or gas permeable lenses which can be used for overnight wear due to higher oxygen transmission through the lens material. Not every one can sleep in contact lenses, however. Some eyes need more oxygen to function properly. The patient must be aware they are assuming a greater risk of infection and other associated problems by sleeping in contact lenses. Brand examples: Criterion FW.
- **Disposable** contact lenses are soft lenses which are replaced on a regular schedule such as one week, two weeks, or one month. Some lenses, like Surevue, are not to be worn overnight. Most, however, are flexible wear. Disposable lenses are sold in multi-packs with 4 or 6 lenses to a box. Brand examples: Acuvue, New Vues, Seequence 2, Freshlooks, Ultraflex 7/14 38%, Ultraflex 7/14 55%.
- **Frequent replacement** contact lenses are replaced less frequently than disposable lenses. Common replacement times are every 2-3 months. Brand examples: Ciba Focus, B&L Medalist.
- **Daily disposable** contact lenses soft lenses that are discarded. Cleaning and disinfection are not needed because the lenses are never re-inserted. Brand examples: 1-day Acuvue, Focus, Dailies.
- **Rigid gas permeable (RGP)** contact lenses are hard to the touch and not pliable or flexible like soft lenses. As a result, patients often are aware of the lens in their eyes and adaptation to the lenses takes longer – usually one or two weeks. Brand examples: Boston, RXD, Boston 7, Polycon II, Paraperm.

## Contact Measurement

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As with spectacle prescriptions, contact lens prescriptions are written on an Rx form.

Doctor's Name: _____		Date: _____			
<b>Prescription</b>					
	Base Curve	Sphere	Cylinder	Axis	Diameter
<b>OD</b>					
<b>OS</b>					
<b>Add</b>					
<b>OD</b>		Brand	_____	Refills	_____
<b>OS</b>		Material	_____	Wear Time	_____
Doctor's Signature: _____					
Expiration Date: _____					

The components of a contact lens prescription are:

- **Base curve** – indicates the back curvature of the contact lens.
  
- **Diameter** – indicates the width of the contact lens.
  
- **Power** – the amount of correction in the contact lens. Contact powers and spectacle lens powers are usually not the same.
  
- **Brand or Manufacturer**

## Contact Lens Insertion and Removal

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**It is important to note that laws vary from state to state regarding contact lenses and the role of the Optical Dispenser in selling and dispensing contacts.**

### Soft Lens Insertion

- Thoroughly wash and dry hands. Wash with an anti-bacterial soap. Do not use soaps that contain lotions or moisturizers.
- Check to make sure the lens is right side out. You can do this one of two ways. A lens that is inside out will be difficult to insert and feel uncomfortable when worn.
  - Roll the lens into the shape of a “taco shell.” If the edges curve inward the lens is right side out. If the edges tend to curve outward, the lens is inside out.
  - Some of the newer lenses have engravings on them. Ask your doctor or mentor to show you these markings and how to determine if the lens is right side out.
- Place the lens on the end of your dry index finger. Right or left hand is patient preference. If your finger is wet, the lens may adhere to it and not want to go in the eye. A soft lens will stick to the wetter surface, thus the patient’s eye should be wetter than their finger.
- Using the hand not holding the contact, pull up on the upper lid while looking down. The patient should pull up at the lash line to get the widest opening.
- Pull the lower lid down while looking up. The patient should use the middle finger of the hand holding the contact. Again, the patient should pull down at the lash line and not on the cheek to ensure a good opening.
- Place the lens directly on the cornea. **Instruct the patient to not let go of their lids yet.**
- Have the patient look down and release the top lid. Have them then look up and release the bottom lid. This will remove air bubbles under the lens. If the patient lets go of both lids at once, the lens may pop out due to the air underneath it.
- Blink a few times to stabilize the lens.
- Repeat for the left eye.

### Soft Lens Removal

- Check to see if the lens is centered on the cornea.
- Pull the lower lid down with the middle finger of the hand handling the lens.
- Use the index finger to drag the contact lens down and off of the cornea.
- Use the thumb and index finger to gently pinch the lens off the sclera, the white part of the eye.
- Repeat the process for the other eye.

### Rigid Gas Permeable Insertion

- All of the insertion techniques applied to soft lenses are used for the insertion of rigid gas permeable lenses.
- Always soak lenses in conditioning solution before dispensing to the patient.

### Rigid Gas Permeable Removal

- Look down into the palm of your hand while pulling the outermost temporal corner of your eyelid with your index finger.
- Forcefully blink the eyelids while maintaining pressure.
- This should allow the lens to blink off the cornea and into the palm of your hand.

NOTE: A special suction cup may be necessary to facilitate the removal of a lens until the blink method can be mastered.

NOTE: It is not uncommon for contact lenses to feel awkward at first. It takes patience and practice to master the technique. If a dispenser is not successful at dispensing contacts on a patient's first visit, an appointment should be scheduled for a later date. Between visits, the patient should practice opening their lids and touching their eye. **Patients should not be sent home with contact lenses until they have successfully completed the insertion and removal process.**

# Do's and Don'ts of Contact Lenses

## Do's

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- Wash hands before working with contact lenses. Failure to do this could cause a potential eye infection. If they have anything on their hands such as lotion, it can be absorbed into the lens (soft lenses) and may ruin the lens or cause burning or discomfort.
- Check for rips and tears before insertion. If a patient puts torn or ripped lens into their eye, it can scratch the cornea and be very uncomfortable.
- Use only the solutions recommended by their doctor. Some solutions are made with different chemicals that could react adversely and damage the contact and cause eye irritation.
- If the patient is unable to use the solution recommended, they should check with the doctor before switching to a different solution.
- Depending on the solution, the contacts may be inserted directly from the disinfecting solution. Other solutions require rinsing before the lens may be inserted.
- Keep fingernails trimmed. This will prevent both tearing the lens and the possibility of scratching the cornea of the eye.
- Keep the storage case clean and change the solutions daily. If a patient tries to reuse solutions, they may contaminate the lens and cause an eye infection.
- Keep all follow up visits. It is very important for the doctor to evaluate a patient's progress to insure a good fit and maintain eye health. If patients do not return for follow up visits, they should not be able to get more contacts. In most cases follow up visits are included in the initial contact lens exam fee.
- The patient should keep a spare pair of glasses with the current prescription on hand in the event that the contact lenses become lost or damaged. There will be times when contact lenses should not be worn.
- Wear good quality sun wear. Patients should be advised that they might notice an increased sensitivity to light. They need a good pair of sunglasses not only for comfort but for the UV protection as well.
- Using a drop of contact rewetting solution in each eye prior to insertion and removal can prevent lens tears and make the process much easier.
- Remove the lenses immediately and call the doctor if symptoms such as redness or pain persist.

## Don'ts

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- **NEVER** use tap water on a soft lens. Tap water contains a particular amoeba that, if absorbed into a soft lens, can cause **serious** corneal damage.
- Don't sleep or nap while wearing the contact lenses.
- Don't swim or shower in the lenses.
- Don't over wear the lenses. To insure the best possible eye health, follow the doctor's recommended wearing schedule.
- Don't wet the lenses with saliva. This is a sure way to get an eye infection.
- Don't rub eyes while wearing the lenses.
- Don't use any eye drops while wearing the contacts unless the doctor has given the okay to do so.
- Don't count on contacts for eye protection. Always wear impact resistant eyewear if your job or activities could cause eye injury.

## Contact Lens Solutions

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There are a variety of solutions available on the market today. Again, it is important that the patient only use the solutions recommended by the doctor. Below are brief descriptions of some of the types (not brand names) of solutions available.

**Surfactant cleaner:** This solution is used to take off the oils and proteins contained in tears on the lens surface. Sometimes referred to as a daily cleaner.

**Disinfectant:** This solution will kill the microorganisms (germs) on the lens.

**Saline:** This solution is sometimes used for storage and rinsing of the lenses.

**Enzyme:** This provides a "deep cleaning" of the lens to remove all of the protein deposits on the lens.

**Rewetting Drops:** Specially formulated drops designed to lubricate the eyes and lenses. May be inserted during lens wear.

## Self-Test: Contact Lenses

1. The first step in contact lens insertion is to:
  - a. Check for rips or tears
  - b. Check to see if inside out
  - c. Wash hands thoroughly
  - d. Place the lens on the finger
  
2. It is NOT important if a patient:
  - a. Follows doctor recommendations
  - b. Uses tap water on soft lenses
  - c. Over wears the lenses
  - d. All of the above are important
  
3. When instructing a patient on lens insertion:
  - a. They can be left alone to figure it out
  - b. They should be proficient before leaving the optical center
  - c. Don't worry if they can't get the lenses inserted
  - d. If the optician is busy, then this instruction can be skipped
  
4. Disposable contact lenses can be:
  - a. Slept in
  - b. Showered in
  - c. Thrown away after wear
  - d. Dispensed without a Rx
  
5. When dealing with contact lenses, it is important:
  - a. To know state laws
  - b. Instruct the patient on insertion
  - c. Wash your hands
  - d. All of the above
  
6. Overwear or abuse of contact lenses:
  - a. Can result in eye infections
  - b. Aren't really important
  - c. Are the patient's problem
  - d. Only affect the doctor
  
7. RGP lenses are:
  - a. Soft and Flexible
  - b. More comfortable
  - c. Rigid
  - d. Good eye protection
  
8. If a patient has difficulty inserting contact lenses:
  - a. They should quit trying
  - b. Their finger may be too wet
  - c. They should be left alone
  - d. The doctor should be called in
  
9. Personal hygiene is not important when dealing with contact lenses.  
 True\_\_\_\_\_ False\_\_\_\_\_
  
10. The patient should only use recommended solutions and drops with contacts.  
 True\_\_\_\_\_ False\_\_\_\_\_