

Optical Adjustments and Repairs for PARA Professional

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Frame Repair & Adjustment

Before dispensing glasses, frames should be in a neutral position, or "four point adjustment." There are four points of where the frame will touch the counter, and should always be checked with the frame upside down, so the adjusted temple tips will not interfere. In this position, both temples and both eye wires should sit flat on the table.



If the glasses are not in four point adjustment, visually check each temple to see if one is obviously bent higher or lower. If so, adjust that temple properly, until four point is reached. If both temples look straight, and four point is still not reached, make sure temples close over each other parallel. If one temple closes above or below the other, the temples are considered X'd and are twisted. If the temple is pointing down, you will need to use wide angle pliers to rotate the temple (at the hinge), out, to raise the temple up. If the temple closes higher than the other, rotate the temple in, to low the temple. Now check four point again.

- Often times, the patient is not symmetrical. In order to compensate for this, temples and nose pads will have to be adjusted individually and glasses will end up uneven at rest on the counter. You should still start a new pair of glasses in four point before determining what the patient's adjusted wear position is. Always adjust glasses so they are straight on the patient, as if you had an imaginary level resting on them. Do not use a patient's eyebrows as a guide. These are almost never even.
- To raise a lens higher, you will either need to move that temple down, or that nose pad in. Sometimes it is a little of both. The opposite is true to lower a lens. Be sure to heat any frame before making adjustment. Cold metal or plastic will weaken and sometimes break if moved. Also, be sure to brace the frame wear you don't want any movement. When doing a temple adjustment, it makes sense to brace the frame at the connection of the eye wire.

- Multi-focal lens wearers will benefit from an adjustment called, "pantoscopic tilt", or "panto." This brings the bottom of the eye wire closer to the patient's cheek if there is too much gap for them to easily access their reading zone. This adjustment is made by heating the hinge, bracing the temporal side of the lens, usually at the eye wire screw, and bringing the hinge down with wide angle pliers. If the bottom of the lens is too close the patient's cheek, they may need the opposite adjustment, called "retrosopic tilt", or "retro."
- Eyeglasses should usually have a slight face form. This can be achieved by heating the frame at the bridge, bracing the bridge with the thumbs and applying a slow, even pressure on the center of the lens to bring them in. If the frame has too much face form, use the opposite motion.
- Glasses will put pressure on the patient in four places. These are either side of the nose and on each ear. The goal is to keep this pressure even, so the patient does not feel any pressure of the glasses, and is able to wear them comfortably. If the patient feels pressure at the nose, extra adjustment may be needed at the ear, if the nasal adjustment appears correct and vice versa.

- If a patient states that their glasses are too tight, look to see where they are tight and ask the patient specific questions about where they feel pressure. If it is at the nose, check the pads. These should sit flush on either side of the nose. They should sit snugly, without any visible pressure. If there is pressure, or they are ill fitting, move them out. If they are sitting well, see what material they are made of. Patients wearing hard pads, may need a softer pad. If they are already in silicone pads, ask them if they have a silicone sensitivity, or if the pads feel like they are pulling on their skin. If it is though the temple, you may have to bring the temple out at the hinge or bow the temple a bit.
- If the patient states their glasses are too loose, stop and first make sure they are not actually too tight! If nose pads are squeezed in so far, that they are on top of a patient's nose, instead of on either side of it, the bridge will slip. If the temples are too tight against a patient's head, the frame will push forward and drop down. Open the frame and see if it fits better. If the frame is honestly splayed loose, heat the frame, then start at the bridge, bringing the frame in a little at a time through the whole frame. Often times I will see an optician simply crank the temple down behind the patient's ears in hopes of hooking on a loose frame, instead of actually fixing the frame. Obviously, this is wrong. Sometimes the frame does just need a little tightening at the bridge, or behind the ear, and that is ok, but they key is to observe. Fix what is actually wrong.
- If a patient looses a screw, replace it. Usually nose pads screws are a 1.1 or 1.2 diameter. Temple screws are longer, more pointed and are a 1.2 or 1.3 diameter. Eye wire screws are usually 1.3 or 1.4 diameter. If the screw is stripped, go up 0.1 diameters and use a self tapping screw.

Part of a Frame



Common Eye Glass Repair

▶ Help My Glasses are Loose



- ▶ If someone is stating that their glasses are loose, or slipping, please take a moment to see how the glasses are sitting on the patient.
- ▶ Are they stretched and bowed, like the image above? If so, heat the frame, being careful not to overheat the lenses, and slowly bring the frame in, beginning at the bridge and working around the frame. *A common mistake is to simply crank the temples down tighter around the ears. Without first fixing the actual problem, this will only put more pressure on the patient's ears.*

Are the glasses properly adjusted behind the patient's ears? Each patient has their own preference for "behind the ear" adjustments. Some people like their temples barely turned, while others like the temples directly against the back of their ears. "Proper" alignment is in between the mastoid ridge and the back of the ear. *Please be careful not to allow the temple to rest directly on the mastoid.*

- ▶ Are the patient's temples tight enough? If not, heat frame at hinge and, using nylon pliers, bring temple in. *Sometimes the temples are actually too tight, causing the patient's glasses to push forward. In this case, heat the hinge and open the temple, or heat the side of the temple and bow temples to accommodate patient's head size.*



Nose pads should rest on either side of the patient's nose, and should be the proper shape/ size for the patient's nose and frame. If all of this looks good, check the nose pad material. Silicone pads will provide more grip and help the glasses stay up. *It is a common mistake to simply make the nose pads tighter. This will often make the glasses slip more, as the pads will end up at the top of the patient's bridge instead of on either side of it.*



NERD WAS WORKS!! Sell it!!

Excuse me, but I sat on my wife's glasses....

- ▶ If the glasses look salvageable, heat the frame, and attempt to return to four point alignment, then readjust to patient. Often the lens will pop out. Make sure the glasses are in four point before reinserting the lens.



Also, the temples will usually be X'd. This can be frustrating, as the glasses look like they are aligned until you close the temples and notice they do not close over one another, as they should.



If this happens, please heat the hinge, and, using the wide angle pliers, grip the hinge and screw barrel and twist the temple in to bring it down, or twist out to bring it up. *A common mistake is to simply raise the temple up or down. This will actually bend the hinge and put stress on the frame. The glasses will never sit level on the patient.*



Yum, yeah, like my glasses are leaving red marks.....

- ▶ Please take a moment to see how the glasses are sitting on the patient. Just like the glasses should rest on the table in four places, the glasses should rest comfortably on the patient in four places. This is on the top of either ear and on each side of the bridge. If there is not enough support at the ears, the glasses will sit heavily on the bridge.



If there is not enough support at the nose, the glasses will sit heavily on the ears.



If the glasses look to be properly balanced, please check materials. Is the patient allergic to, or sensitive to the frame materials? Silicone pads are often preferred, but can leave red marks on the skin due to irritation.

Four Point Alignment



Frames should touch the table in four places when laid upside down on a flat surface. Frames should lay level on each temple and the top of each eye wire.

A Common mistake is assuming that the temple not touching is the temple that needs to be adjusted. Please pick the frame back up to determine which temple is not parallel from the eye wire to make the proper adjustment.

Nose Pads



Frames should always be dispensed with clean, fresh nose pads!! Nose pads should be selected according to frame size and weight, as well as the patient's nose shape.

Men usually have larger noses and will benefit from nose pads point down, where women's noses are usually thinner at the bridge and should have the nose pads pointing up.

Children and ethnic bridges may need a smaller nose pad, or a button nose pad

Nose pads are most commonly available in silicone, acetate, PVC. Metal and Biomedical silicone nose pads are also available at a premium cost. Acetate nose pads are standard on most frames and are the thinnest nose pad option. Silicone pads have a little more cushion for the patient, and grip the skin offering superior slip protection. However, this can irritate those with thin, or more sensitive skin. PVC offers a moderate amount of cushion and slip good, but can sometimes smell like rubber.



My Darn Screw Fell Out!

- ▶ If a screw comes out of a frame, please replace it with a new screw. We do not charge for screws. Nose pads screws are in the drawer with nose pads and are usually a 1.0, 1.1 or 1.2 mm screw. Thread lock screws are best for nose pads.
- ▶ Eye wire screws are usually a 1.3 or 1.4 mm screw, although, you may occasionally need a 1.2 or 1.5. Screw should fit snugly and tighten down completely. If the screw goes straight through, or does not tighten completely, use the next size up. Start with a 1.3 thread lock screw. If that is not tightened, the screw barrel may be stripped, so go to a 1.4. You may need a self-tapping screw. Make sure the lens bevel is properly set.
- ▶ Temple screws usually need a 1.2 or 1.3 mm screw. If the temple has a spring hinge, you will need to use a 1.2 or 1.3 logic screw to align the two parts of the hinge, as these have a longer taper. Again, please make sure the screw is snug and the head no longer turns



- ▶ After replacing the screw, please check the others and make sure the frame is properly adjusted. Do not over tighten temple screws and this could cause the temples to not open and close properly, or even cause the hinge to break.



- ▶ Much better, dearie, thank you.

Eyeglass Graveyard

Repairs we can not make, or, let's hope they are under warranty



Broken Eye wire



Broken Nose Piece



Annihilated Glasses (usually)



Snapped Bridge

An example of a proper adjustment

- ▶ Glasses should maintain their resting shape when worn by the patient. Nose pads should sit on either side of the bridge. Temples should rest comfortably along the sides of the face and bend just behind the top of the ear. The eye should sit in the top 1/3 of the lens close to center, and the shape should compliment the shape of the eye area. The glasses should look natural and comfortable on the patient and not slip while the patient is working.



- ▶ *** Congratulations if you actually read this.*