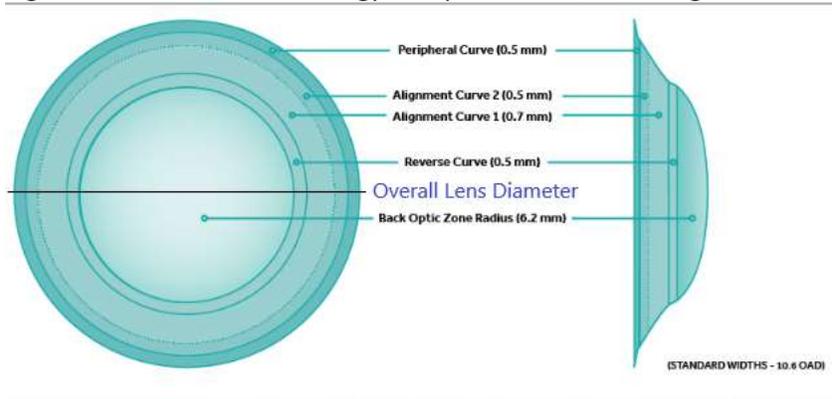


Determining Overall Lens Diameter (OAD)

- Base your lens OAD recommendation off the patient's HVID, keratometry readings, and customer preference.
- Manual HVID measurements are notoriously subjective and can be inaccurate. Request a topographical HVID measurement wherever possible.
- Choose a lens diameter that is at least 0.6mm smaller than the patient's HVID.
- If the patient's flat K is $\leq 40.00D$ and they have an HVID of $\geq 11.6mm$, choose a lens diameter of 11.0mm.
- If the patient's flat K is $\leq 40.00D$ and they have an HVID of $< 11.6mm$, choose the largest lens diameter possibly by subtracting 0.6mm from the patient's HVID to determine the OAD.
- Respect customer preference as long as the preference is at least 0.6mm smaller than the patient's HVID.
- Choose a 10.6mm starting OAD if the patient has a flat K ≥ 40.00 and they have an HVID $\geq 11.2mm$.
- If the patient has an HVID $< 11.2mm$, choose the largest possible lens diameter by subtracting 0.6mm from the HVID.

Overall lens diameter (OAD) is defined as the width of the lens from edge to edge (Figure 1.) At Euclid, we express that diameter in millimeters. The range of Euclid's approved lens diameters is 9.8mm to 11.6mm. **When fitting a patient with a new lens, Euclid recommends basing the lens OAD recommendation based on the patient's horizontal visible iris diameter (HVID, also known as white-to-white (WTW) or corneal diameter) and keratometry readings.**

Figure 1. Euclid orthokeratology lens parameters, including overall lens diameter in blue



Euclid's ortho-k lenses are corneal lenses, meaning they should rest only on the cornea, not on the conjunctiva or sclera. **To avoid impinging on the limbus, Euclid recommends choosing a lens diameter that is at least 0.6mm smaller than the patient's HVID measurement.** This is the most important factor when choosing a lens diameter and should always be considered before accounting for keratometry information or customer preference.

Next, review the patient's keratometry readings. If the patient has an unusually flat cornea, a lens smaller than 11.0mm may have difficulty centering, as the smaller lens may be too steep in the

alignment area. For Euclid's ortho-k lenses, unusually flat corneas are defined as having a flat K reading of $\leq 40.00D$. **If the patient has a flat K of less than or equal to 40.00 and their HVID is greater than or equal to 11.6mm recommend a starting OAD of 11.0mm. If the patient's HVID is less than 11.6mm, recommend the largest lens possible by subtracting 0.6mm from their HVID.** For example, if the patient's HVID is 11.2mm, you would recommend a starting OAD of 10.6mm.

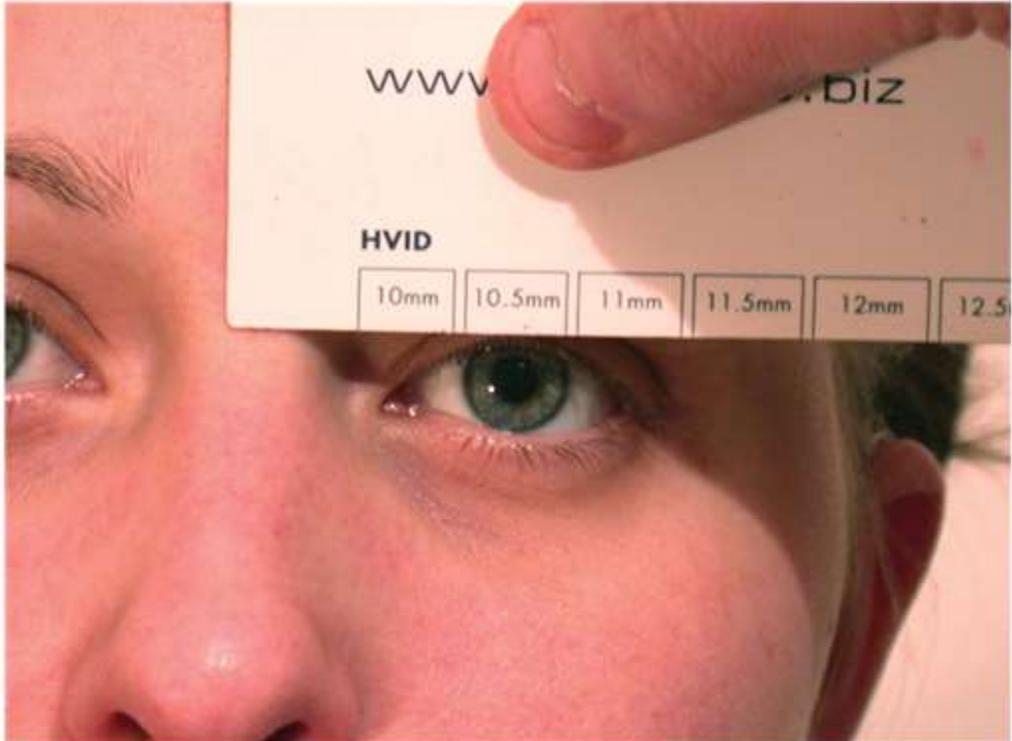
Next, take customer preference into account. If the customer would prefer a specific OAD and the patient's HVID will tolerate a lens of that size (read: the customer's preferred OAD is at least 0.6mm smaller than the patient's HVID), use the customer's preference.

Finally, if the customer did not indicate a preference for the lens OAD, the patient's Ks are steeper than 40.00D, and the patient's HVID is $\geq 11.2mm$, Euclid recommends choosing a starting diameter of 10.6mm. This diameter has been found to center well on most normal corneas. If the patient's HVID measurement is less than 11.2mm, choose the largest possible lens diameter by subtracting 0.6mm from the patient's HVID measurement. If Euclid does not offer a lens diameter large enough to safely fit the patient (HVIDs of $< 10.3mm$ and below), the customer would be considered a "less than ideal" candidate for ortho-k. Recommend the smallest possible OAD of 9.8mm and warn the customer to carefully assess the patient for lens impingement at the initial fitting.

A note on HVID measurements: HVID can be measured manually by the customer using a ruler (Figure 2.), or estimated using a topographer. **Manual measurements are notoriously inaccurate, so take any unusually large or small reported manual measurements with a grain of salt and request a topographical measurement if possible.** Many customers do not take HVID measurements and can only give you an appropriate size. If the customer cannot provide the exact HVID, ask them for an approximation of the patient's HVID - small, medium, large. HVIDs usually range between 10.0 to 13.0mm, with most average HVID measuring 11.8mm (links to related studies below). If the customer does not provide an exact HVID measurement, you can estimate the HVID by using the following chart:

HVID Description	Estimated HVID
Small	10-11mm
Medium	11-12mm
Large	12-13mm

Figure 2. HVID measurement using a manual ruler.



Average HVID Links:

<https://pubmed.ncbi.nlm.nih.gov/15778595/>

<https://www.clspectrum.com/issues/1999/november-1999/hvids-when-lens-size-matters>