

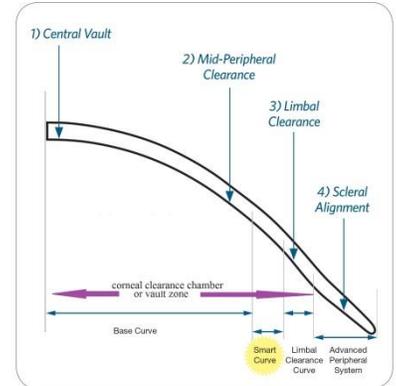
## Effect of APS Changes to Zenlens Central Clearance

### Overview

The three central-most curves of the Zenlens—the Base Curve, the Smart Curve and the Limbal Clearance Curve—combine to create what may be called the corneal clearance chamber or vault zone of the lens. It is this vault zone that creates and maintains separation between the back surface of the lens and the patient’s cornea and limbal area. Peripheral to the vault zone is the Advanced Peripheral System (APS), also known as the landing zone or haptic zone, where the lens lands on the patient’s scleral conjunctiva.

The Smart Curve was implemented within the Zenlens design to maintain consistency of the sagittal depth of the vault zone as changes are made to either of the other two curves (Base Curve or Limbal Clearance Curve) within that zone. *The Smart Curve is not utilized,*

*however, to automatically compensate for changes to the overall sagittal depth of the lens when modifications are made to the APS because it is impossible to accurately predict what effect such changes will have on the central fit of the lens on any individual patient. This is due to the great variety of individual patient differences in scleral shapes or amount of asymmetry, the corneo-scleral junction profile or limbal angle, and the thickness and rigidity of the conjunctival tissue on which the lens lands. We feel it is best to allow each Zenlens fitter the leeway and control to determine what compensation to overall SAG and limbal clearance, if any, would likely be needed when modifications are made to the APS landing zone for any given patient.*



### Guidelines & Recommendations

1. Steepening the APS
  - a. It is felt that steepening the APS—most often done to reduce edge standoff—will have little clinical effect on the central fit or corneal clearance within the corneal vault zone. It is possible that such steepening may decrease compression near the limbus and result in a slight increase in limbal and corneal clearance. Such increases are generally not perceived to be adverse in nature, however, so most practitioners do not feel a need to make compensations to SAG or LCC when steepening the APS. **It is not recommended to adjust SAG when steepening APS**
2. Flattening the APS
  - a. A universal guideline to predicting the degree to which central clearance may decrease relative to the amount of APS flattening is impossible. Employing a conservative approach independent of the patient specific factors listed **Alden’s consultation team will recommend increasing the overall SAG value of the Zenlens by 50% to 100% of the amount of APS change when the APS is flattened by more than two steps**
  - b. Possible compensation for potential loss in limbal clearance is also worthy of consideration and would depend on the amount of clearance initially observed in this area and the individual practitioner’s target for desired limbal clearance. **Alden consultation will rely on practitioner judgement and not make any standard adjustments to LCC in this scenario**
  - c. In cases involving toric peripheral curves, Alden consultation will recommend central clearance compensation based on adjustments made to the flatter meridian.