

ALL ABOUT HIGH PLUS AND HIGH MINUS SPHERICAL LENS AND ASPHERIC LENS

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ABSTRACT:

This paper describes about Plus lens Spherical Design, Minus lens spherical design and Aspheric lens designs.

INTRODUCTION:

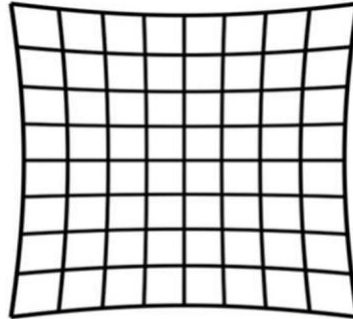
Plus lens Spherical Design:

It is a lens which is helpful to correct Hypermetropic Refractive error

Clinical Features of Plus lens:

✚ It is centrally thick and peripherally thin. But its thickness is depending on the Amount of Refractive error.

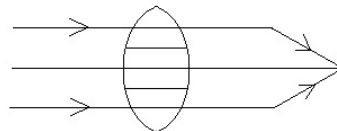
- In case of High Refractive error, then central thickness is more compared to peripheral thickness.
- In case of Aphakic eye or high Refractive error, patient is feeling Pincushion effect with only spectacle wear.



- High Plus lens create opposite movement. It mainly occurs due to prism direction, in case of plus lens, base to base is present, and that's why Opposite Movement occurs.



- Plus lens create convergence.



- Plus lens relax Accommodation.
- High plus lens can able to create point focus practically but theoretically, line image is created but it is ignorable.

High plus lens creates Real image and its size is mild bigger compared to real image so mild magnification occurs.

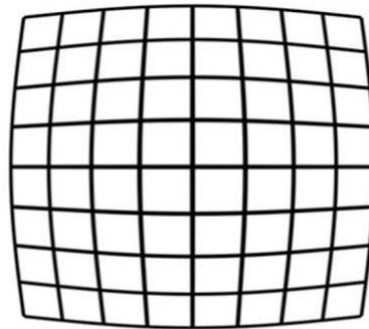
- In case of high plus lens there may be chances to create Spherical Aberration and Chromatic Aberration due to prism thickness.
- High Spherical plus lens weight is more compared to Aspheric Design.

Minus lens Spherical Design:

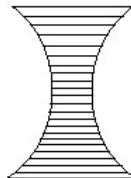
It is a lens which is helpful to correct Myopic Refractive error.

Clinical Features of Minus lens:

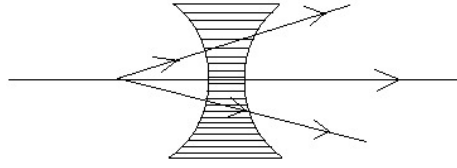
- It is centrally thin and peripherally thick. But its thickness is depending on the amount of Refractive error.
- In case of High Refractive error, then peripheral thickness is more compared to central thickness.
- In case of Myopic high Refractive error patient is feeling BARREL effect during spectacle wear.



Minus lens creates same movement. It mainly occurs due to prism direction in case of minus lens, apex to apex is present, and that's why same Movement occurs.

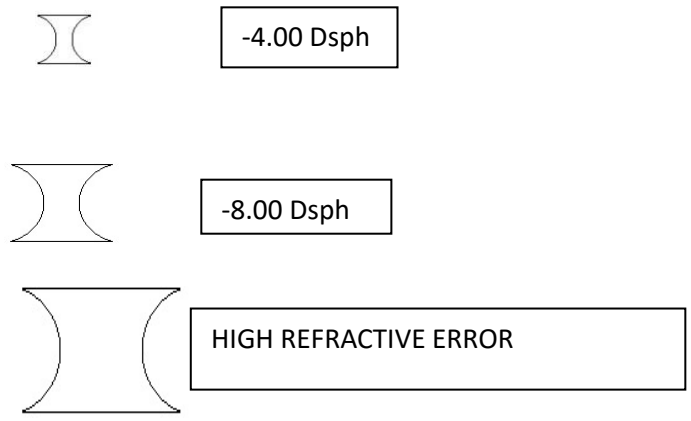


Minus lens creates Divergence.



CENTRALLY STEEPER

- ✚ Minus lens stimulates Accommodation.
- ✚ High Minus lens create Virtual image and its size is mild smaller as compared to real image so, mild minification is occur.



ASPHERIC DESIGN:

- ✚ This design can be incorporated into the spectacle lens. This design can be far better as compared to spherical lens design.
- ✚ It is centrally stepper and peripherally flatter.
- ✚ It can reduce Aberration due to its curvature.
- ✚ Sharpness of design is much more as compared to spherical design of the spherical lens.
- ✚ In case of high Refractive error always aspheric design spectacle lens should be prescribed because no magnification or minification effect will occur
- ✚ Aspheric design of spectacle lens is less in weight as compared to spherical design of spectacle lens.



PERIPHERALLY FLATTER

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