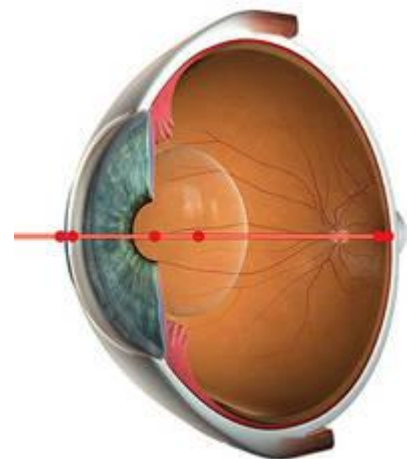
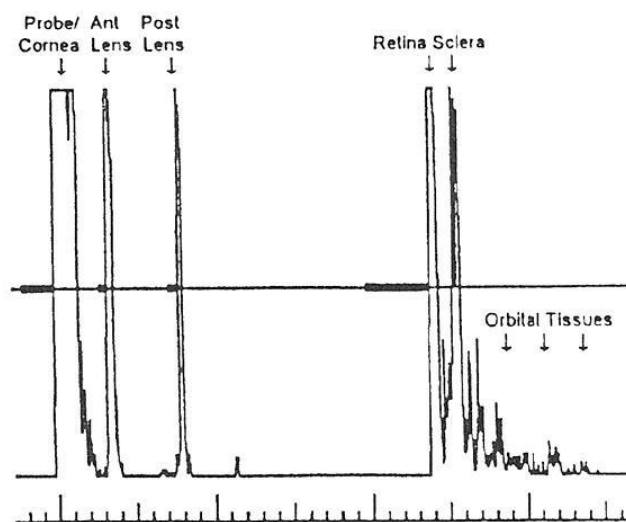


## Biometry:

- 1- (Metry = Measurements) + (Bio = lived tissues) (A-scan/ A= amplitude)
- 2- One dimension sound beam is emitted from the probe tip at its given frequency of approximately 10 MHz
- 3- An echo bouncing back into the probe tip as the sound beam strikes each interface
- 4- The greater the difference in the two media at each interface, the stronger the echo and the higher the spike
- 5- High quality contact A-scan of the phakic eye and good alignment gives 5 high-amplitude spikes.



- 6- The average axial eye length is (23-25 mm). A 0.1 mm error in an average length eye will result in about a 0.25 D (2-3D)
- 7- The average anterior chamber depth is 3.15-3.24 mm but varies greatly

## Indication:

- 1- Differentiate the cause of refractive error (mainly for axial myopia)
- 2- Keratometry + biometry are critical for an accurate IOL measurements
- 3- Detecting some posterior abnormalities.
- 4- Measures the lens thickness

## Manual use

- 1- Meas = measuring
- 2- Calc = IOL calculations
- 3- ID = patient data

In meas:

F1 : [manu / auto 1 / auto 2 / auto 3]

F2 : manual gate on / off

F3 : [phakic – Aphakic - IOL (pseudophakic)]

F4 : OD/R or OS/L

Other measurements are:

- 1- Axial length (mm)
- 2- AD: anterior chamber depth
- 3- LT : lens thickness
- 4- VT : vitreous body length
- 5- A-mode waveform: vertical lines show **intensity** of the echo while horizontal lines show the **time** that the echo takes.

## Source of errors:

- 1- **Misalignment**
- 2- difference between the 2 eyes of more than 0.3 mm is present (without anisometropia)
- 3- corneal compression (**IF AD < 2.80 mm in normal eyes**)
- 4- Extremely dense cataracts