



كلية المستقبل الجامعة
قسم الفيزياء الطبية
المرحلة الثالثة

Medical Physics

Lecture 10

Total Review

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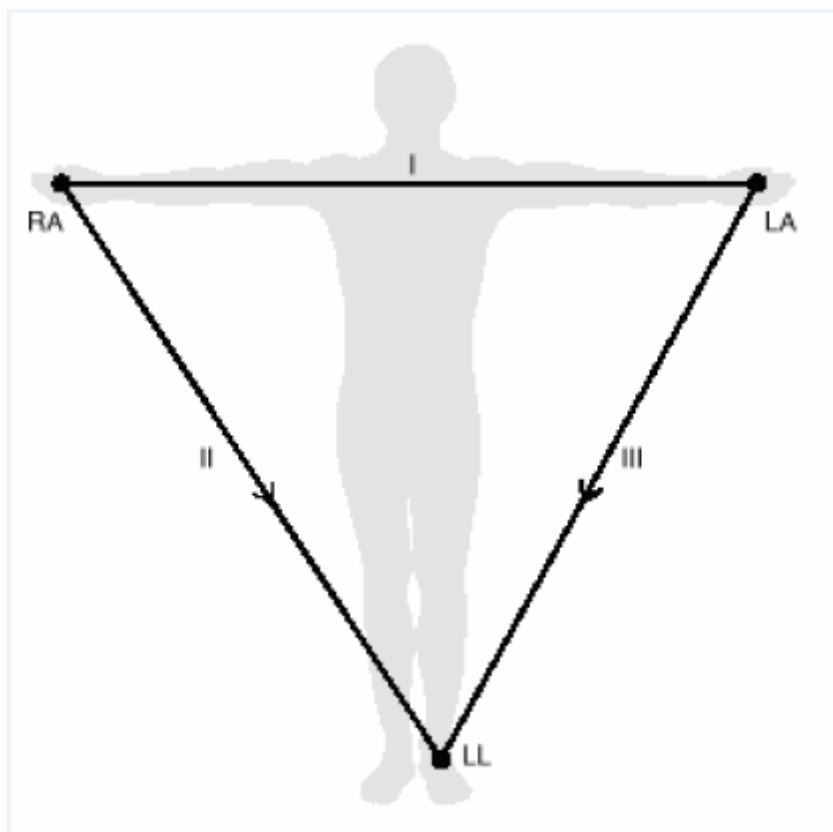
Types of Electrode Leads :

1- Bipolar Limb Lead: are symbolized and this type represents the most famous location for the electrodes on the body and is called the .Enthoven Triangle

Lead I: The left arm (LA) is connected to the positive terminal of the .amplifier input. The right arm (RA) is connected to the negative terminal

Lead II: the left leg (LL) is connected to the positive terminal while the right arm (RA) is connected to the negative terminal and the (LA) .(connection is shortened to the (RA

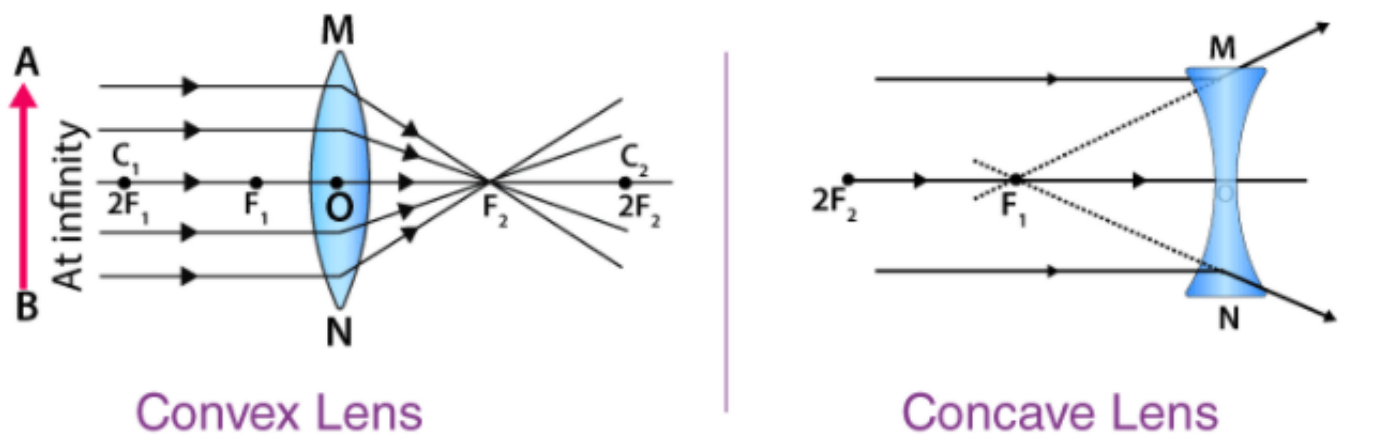
Lead III: the left leg (LL) is connected to the positive terminal, the left arm (LA) is connected to the negative terminal, and the (RL) connection is shortened with (RA) .



Types of Lenses :

Spherical lenses are the lenses formed by bounding two spherical transparent surfaces together .

In general, there are two types of spherical lenses. So, lenses formed by binding two spherical surfaces bulging outward are known as convex lenses while the lenses formed by binding two spherical surfaces such that they are curved inward are known as concave lenses .

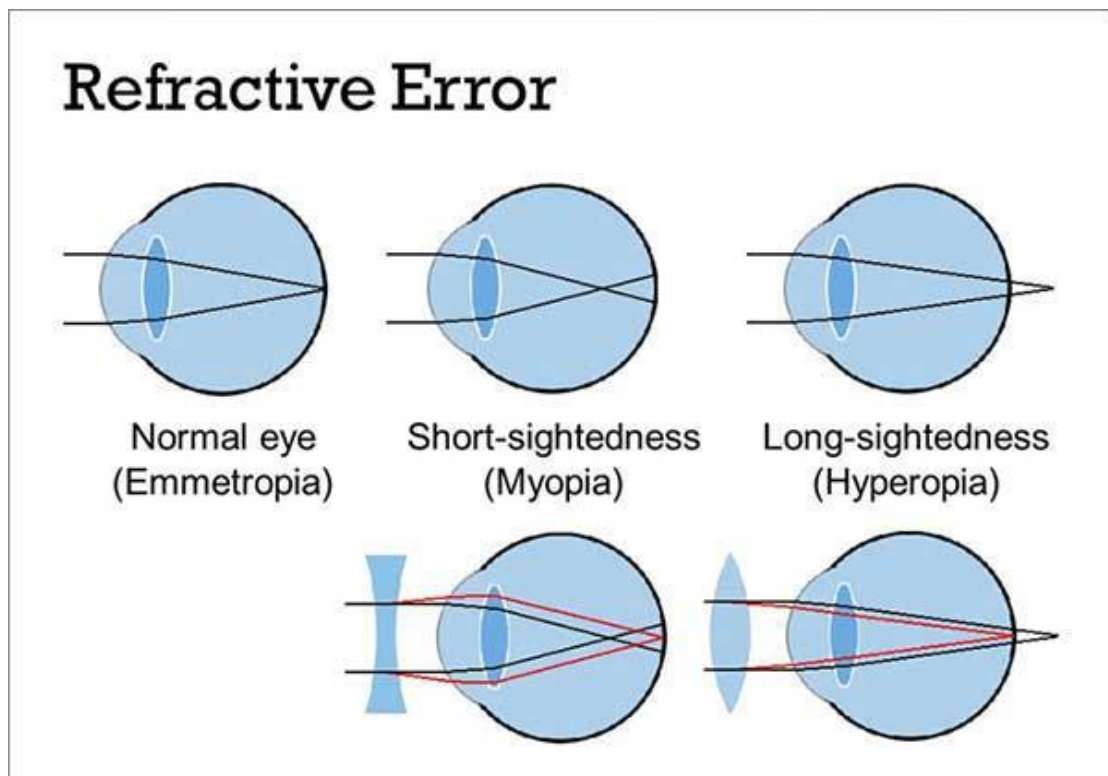


There are two types of lenses :

- 1- Convex lenses :** are also known as converging lenses since the rays converge after falling on the convex lens .
- 2- Concave lenses :** are known as diverging lenses as the rays diverge after falling on the concave lens .

Refractive Error :

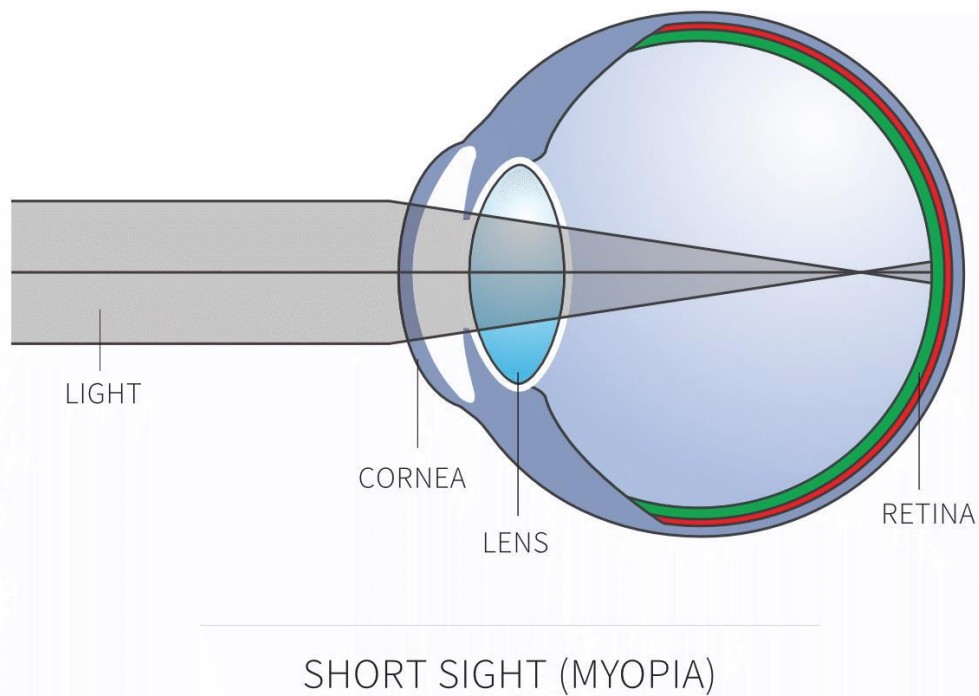
Refractive errors are eye disorders caused by irregularity in the shape of the eye. This makes it difficult for the eyes to focus images clearly, and vision can become blurred and impaired .



Short-Sightedness (Myopia) :

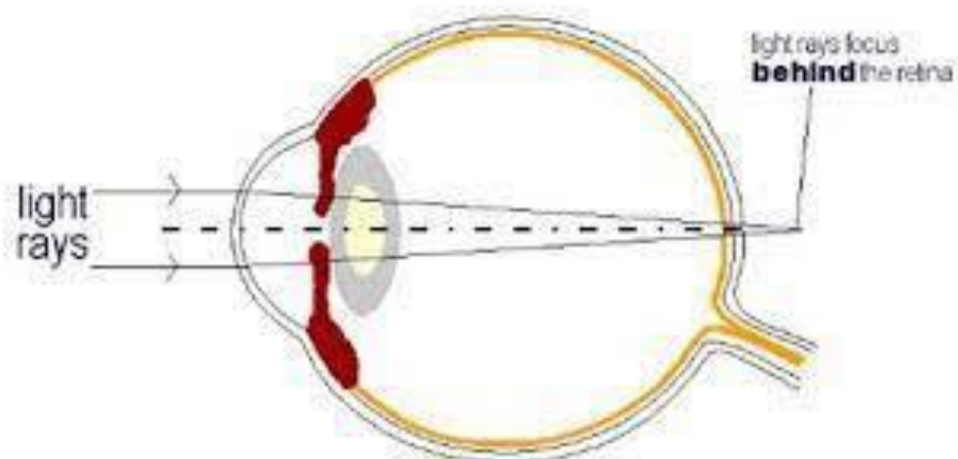
Also known as nearsightedness, is a condition where far away objects are not clear but nearby objects can be seen clearly. Due to the elongated shape of the eyeball, the image is formed in front of the retina causing far away objects to seem blurred. Myopia may increase up to the ages of 18 to 21. The symptoms include difficulty in seeing distant objects

Long .



Long-Sightedness (Hyperopia) :

Also known as farsightedness, is caused when light rays focus behind the retina because of a shorter eyeball. Patients who are affected by this condition have difficulty in seeing nearby objects but objects far away remain clear. The signs and symptoms usually noted are difficulty in reading, headaches, eyestrain, and fatigue.



The basic unit of photometry is the lumen. Photometry consists of four basic concepts :

1- Luminous flux : Measured in lumens, luminous flux is the measurement of total perceived power emitted in all directions by a light source .

2- Luminous intensity : Measured in candela, luminous intensity is the amount of light emitted by a source in a particular direction

Illuminance : Measured in lumens per unit area, illuminance refers to the amount of light incident on a surface. Illuminance can also be referred to in foot-candle.

3- Luminance - Measured in candela per square meter or nit, luminance is the total light emitted or reflected from a surface in a given direction. It indicates how bright we perceive the result of the interaction of the incident light and the surface .

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