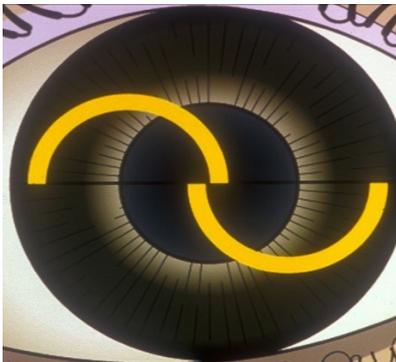
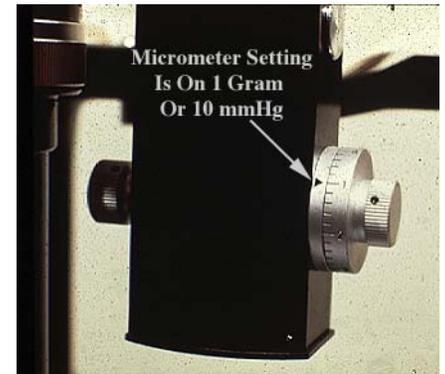


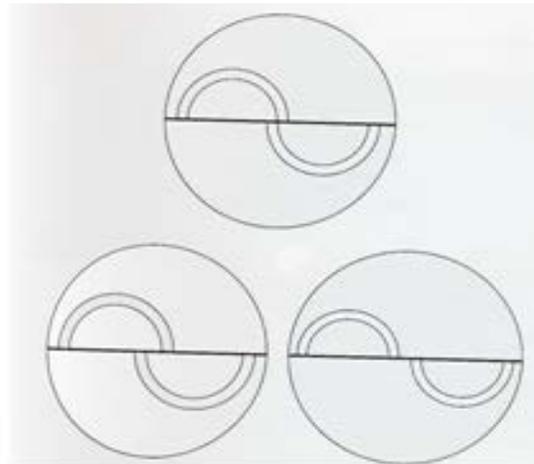
# Tonometry

## Kim Pickett, COMT

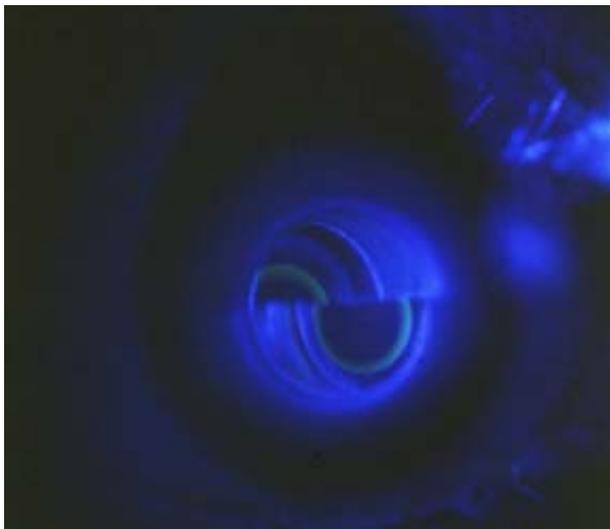
- The face of the applanator is a prism system that splits the image of the circle of the compressed tear film.
- Anesthetic and sodium fluorescein are instilled on the cornea (usually in drop form).
- Then the mires are viewed through the left ocular of the slit-lamp with a cobalt blue beam.
- The mire pattern is actually the tear meniscus.
- When the tip of the prism touches the tear film, the examiner sees two equal but opposite semicircles centered in the field of view.
- Adjust the drum until the inside of the half circles just touch.
- Record results directly off the drum.



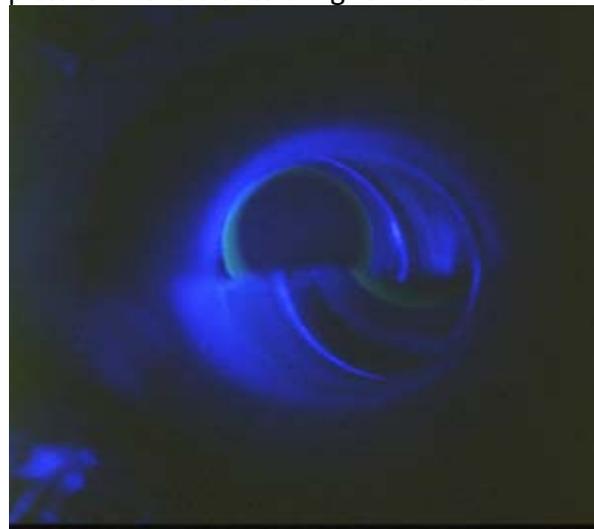
Mire pattern



Correct pattern on top, Lower left picture: move dial to a lower number, Lower right picture: move dial to a higher number



Probe is too high, move lower on the cornea and move to the left to center the mires



Probe is too low, move higher on cornea

# Calibration

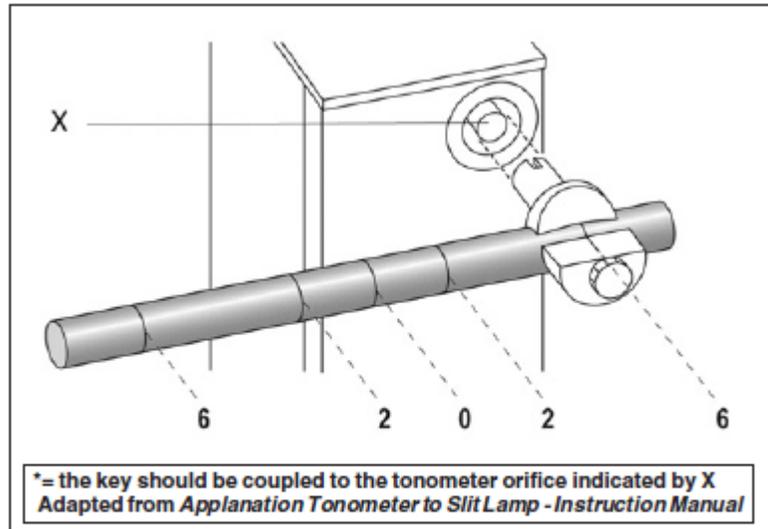


Figure 1 - Key for calibration check of Goldmann's applanation tonometer with 0 (0 mmHg), 2 (20 mmHg) e 6 (60 mmHg) markers\*

If not in calibration (+/- 1Hg) the tonometer needs to be serviced.

Every office should set up a calibration schedule.

# I Care

## PARTS OF THE TONOMETER

1. Forehead support
2. Forehead support adjusting wheel
3. Display
4. Collar
5. Selector button
6. Measurement button
7. Probe base
8. Central groove



## TURNING THE TONOMETER ON AND LOADING THE PROBE

Place the wrist strap into the wrist strap attachment. Place the wrist strap around your wrist and secure it. The wrist strap protects the tonometer from dropping onto the floor accidentally. Insert batteries into the tonometer (page 9). Press the measurement button to turn the tonometer ON. The tonometer display will display all of the LCD segments (see the figure beside). Check that all of the segments are functional in the four-digit, seven segment LCD display. Following a brief pause, the display will show “LoAd,” reminding the user to load the single use probe into the tonometer prior to measurement.

## MEASUREMENT

Since local anesthetic may lower the tonometer reading, we recommend that you refrain from using an anesthetic when performing measurements.

Ask the patient to relax and look straight ahead at a specific point. Bring the tonometer near the patient’s eye. The central groove should be in a horizontal position, and the distance from the eye to the front part of the collar should be the length of the collar. In other words, the distance from the tip of the probe to the patient’s cornea (see picture) should be 4-8 mm (1/6-1/3 inch).

After the sixth measurement, the letter P appears on the display, followed by the IOP (Intraocular pressure) reading.

If the P is blinking, it means that the standard deviation of the measurements is greater than normal.

P<sub>-</sub> (line down) The standard deviation of the different measurements has a slightly greater value than normally, but the effect on the result is unlikely to be relevant.

P<sub>-</sub> (line in the middle) The standard deviation of the different measurements is clearly greater than normal, but the effect on the result is probably irrelevant. A new measurement is recommended if the IOP is over 19 mmHg.

P<sub>-</sub> (line up) The standard deviation of the different measurements is great and a new measurement is recommended.



# Tono-Pen Avia

## Simple One Button Operation

To take a measurement, simply press the button once. When the light turns to green, Tono-Pen AVIA is ready to use. Gently tap the anesthetized cornea until a short beep sounds to alert the operator that the measurement is complete.



## Gravity Independent

Unlike most other tonometers, only Tono-Pen can be used in any position, making it easy to measure all patients, including those who may be in a wheelchair or bedridden.

