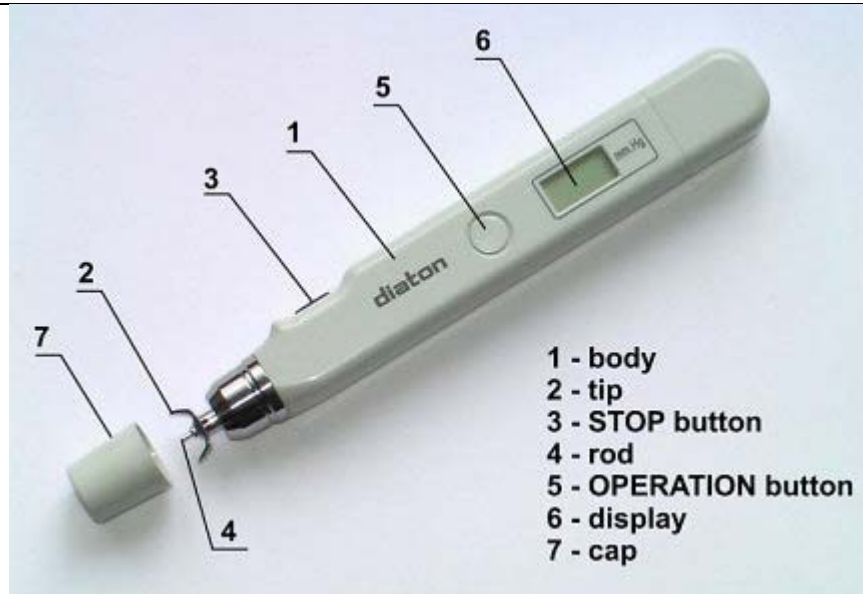




LAMBDA – MEDICA

Solutions Beyond Expectations

PORTABLE TONOMETER FOR INTRAOCULAR PRESSURE User Guide



Diaton portable tonometer is designed to test intraocular pressure (IOP) without any contact with the cornea and no use of anesthetics. To get precise test results, please read this user guide and practice with the test plate panel.

How to hold the tonometer.

Hold the tonometer with its tip down as shown in **figure 1**: The thumb placed on the side of the device's body – opposite to the Stop button, the middle one – on the Stop button (do not press it!), the forefinger – above the Stop button, and the ring-finger – below the Stop button.

Figure 1



Figure 2



Figure 3



Preparing the tonometer for use.

While holding the tonometer as described above, press the Stop button and as you hold it down, flip the tonometer back so that the tip goes upwards. (**See figure 2.**) Quickly return the tip in the downwards position still holding the Stop button. Release the stop button.

Note: The **rod** should not be visible now. If it is, repeat the process!

While holding the tonometer with its tip down, press the Operation button momentarily. If the display says 0000, the tonometer is ready for use.

Testing the tonometer.

The storing case is equipped with a round testing plate that should be used to test the tonometer and to practice your skill at using it.

While holding the tonometer strictly vertically (the sound signal alerts of the incorrect position), place the tip supports into the indentations on the testing circle of the storing case as shown in Figure 3 (page 1)

Press the tonometer slightly down to make the rod fall. You will hear a short sound and the test results will show in the display window.

Repeat the test 6 times and if the displayed results are within the range of 18-22 and there are no L (a new test is needed) or H (cleaning is needed) indicators, the tonometer is working properly and you are using it correctly.

Turning off the tonometer.

To turn the tonometer off, press the Operation button twice. If you haven't touched the tonometer for 30 seconds, it will turn off by itself.

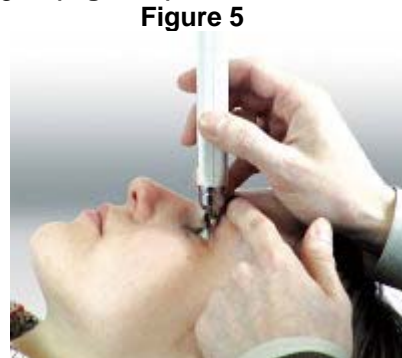
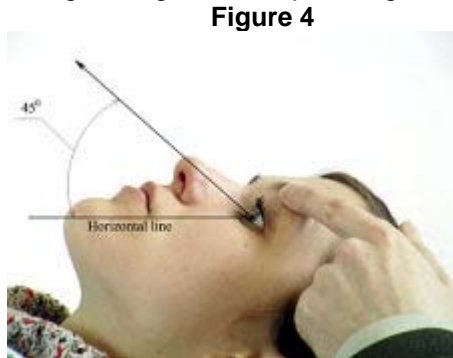
TESTING FOR INTRAOCULAR PREASSURE

Preparing for the test.

- Make sure the patient is sitting or reclining with the patient's head placed horizontally on a head support.
- Check if the tonometer's tip and the rod have been disinfected.
- Make sure the tonometer is functioning properly, it is turned on and the rod is retracted.

IOP test procedure.

Fix the patient's glance on an object. It is recommended to instruct the patient to extent one arm at the 45 degree angle and keep looking at the index finger. **(Figure 4)**



Stand behind the patient and on the left - if you are right-handed, or on the right – if you are left-handed.

Using a finger of the free hand, stretch the patient's eyelid up as shown in **Figure 5** till the edge of the upper eyelid coincides with the limb. Do not pull the eyelid or press the eyeball! To make adjustments to the patient's anatomic peculiarities, move the patient's focal point.

Place the edge of the hand holding the tonometer on the patient forehead.

Place the tonometer above the patient's eyelid holding the device strictly vertically until the interrupted sound signal stops.

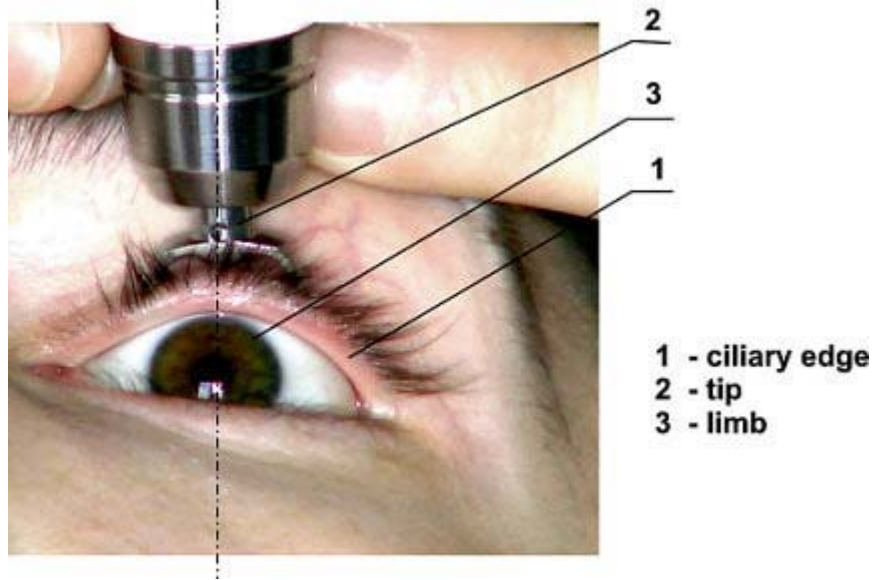


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Place the tonometer's tip on the eyelid's cartilaginous part tightly to the front edge and in parallel to it (**see Figure 6**). The influence zone of the tonometer's rod must be the part of sclera corresponding to corona ciliaris. The tonometer should be kept vertical. If it is not, you will be alerted by the sound signal.

Figure 6



With a light motion, press the tonometer down, while keeping it in the vertical position, until the rod falls on the eyelid. A short sound signals that it has happened. Do not press on the eyelid with the tonometer and make sure the eyelid and the cornea do not get separated during the test.

The display will show the results of the current test that will be stored in the device's memory.

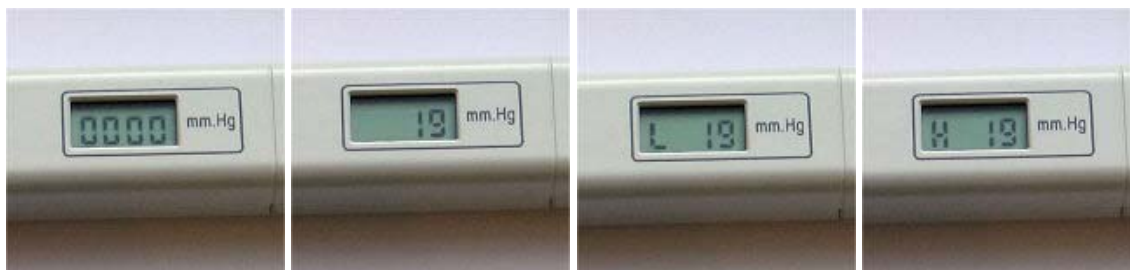
Repeat the test on the same eye with the intervals of less than 30 seconds. When you hear a single long sound signal, press the Operation button to get the mean value of test results.

Proceed to test the other eye.

Consult **Table 1** when interpreting the mean IOP measuring values.

Table 1

A & the mean IOP value – both in the non-flickering mode	The measuring result is reliable.
flickering A, non- flickering mean IOP value	The result is approximate, but if the IOP is equal to or less than 19 mm Hg. It can be considered as reliable.
flickering A00	This is an error message. Consult Table 2 for possible reasons and repeat the test.



Initially, before the measuring

After the correct measuring

After measuring, the tonometer being deviated from the vertical line

After measuring the tonometer's rod mechanism being dirty

How to read display indicators.

Display Indicator	Meaning
0000	The tonometer is functioning properly and is ready for use.
flickering 0000	The rod is not in the right position to start using the tonometer. Repeat the step for preparing the tonometer for use.
L	The tonometer's deviation from the strict vertical line while the measurements were taken were more than 4.5 degrees.
E	Appears after the tonometer has been tested six times with the help of the testing plate.
A	The averaging mode is turned on.
U	Replace the battery.
H	Clean the rod mechanism.

POSSIBLE REASONS FOR ERRORS IN TEST RESULTS

Position or condition of the patient:	
<ul style="list-style-type: none"> - non-horizontal head position - tight tie or collar - holding one's head back for a prolonged period of time for patient's with the pathology of the spine's cervical section 	underestimation overestimation overestimation
Incorrect position of the tonometer:	
<ul style="list-style-type: none"> - non-vertical position of the tonometer - the tip is placed not tightly enough to the eyelids front edge within the limits of the cartilage and is behind for more than 1 mm - the tip is placed beyond the bounds of the cartilage 	underestimation moderate underestimation underestimation
Incorrect eyelid position:	
<ul style="list-style-type: none"> - the edge of the eyelid gets to the cornea - the edge of the eyelid is above the corneal limb - the eyelid's extrophy while pulling it strongly 	

*If you have Any questions regarding the use of **diaton** – please dial our customer service:*

Email: info@lambdamedica.com USA (407) 443-7100 PR (787) 526 2280 PR (407) 719 7770
 Web:www.lambdamedica.com USA FAX (407) 249-9509 PR FAX (787) 744 2009

Please also refer to the booklet Manual I and Manual II for additional details.

Please do NOT hesitate to dial our customer service if you require any assistance.