CLAIMS

1. An ophthalmic device with an intraocular pressure monitoring system, the ophthalmic device comprising:

a media insert comprising a front curve arcuate surface and a back curve arcuate surface, wherein the front curve arcuate surface and the back curve arcuate surface form a cavity capable of containing an energy source dimensioned to conform to an area within the cavity, wherein the energy source is in electrical connection and capable of energizing a micro-piezoelectric element with an electronic feedback circuit and a controller, the controller comprising a computer processor in digital communication with a digital media storage device and wherein the digital media storage device stores software code;

a transmitter in logical communication with the processor and also in logical communication with a communication network, wherein the software is executable upon demand and operative with the processor to:

output a signal using the micro-piezoelectric element;

detect the change of the outputted signal using the electronic feedback circuit; and

determine the intraocular pressure of a user's eye using the detected change of said outputted signal.

2. The ophthalmic device of claim 1, additionally comprising: a radio frequency antenna in connection with the communication network and capable of transmitting data with a wireless device.

3. The ophthalmic device of claim 2, wherein the software is additionally operative with the processor to:

send a signal to the wireless device when the determined intraocular pressure is outside a predetermined threshold.

4. The ophthalmic device of claim 2, additionally comprising: a photon emitter element in connection with the communication network and capable of providing a visual signal to the user when the determined intraocular pressure is outside a predetermined threshold.

5. The ophthalmic device of claim 2, additionally comprising: a micro-electromechanical transducer capable of transmitting an audible signal to the user when the determined intraocular pressure is outside a predetermined threshold.

6. The ophthalmic device of claim 2, wherein the software is operative with the processor to:

transmit, through the antenna, to a drug dispensing device a signal to dispense an active agent when the determined intraocular pressure is outside a predetermined threshold.

7. The ophthalmic device of claim 6, wherein the active agent is a medication including one or more active agents of: prostaglandin analogs, beta blockers, alpha agonists, and carbonic anhydrase inhibitors.

8. The ophthalmic device of claim 1, additionally comprising: one or more reservoir(s) capable of containing a volume of an active agent used to treat glaucoma.

9. The ophthalmic device of claim 8, wherein the software is operative with the processor to:

dispense, from the one or more reservoir(s), an active agent when the determined intraocular pressure is outside a predetermined threshold.

10. The ophthalmic device of claim 1, wherein the software is operative with the processor to:

correlate a change of intraocular pressure with an associated event.

11. The ophthalmic device of claim 1, wherein the software is operative with the processor to:

record one or both an action or a feedback from the Ophthalmic Device after the intraocular pressure is determined to be outside a predetermined threshold.

12. The ophthalmic device of claim 1, wherein the energy source is fabricated using stacked integrated component device packaging technologies.

13. A method of monitoring the intraocular pressure of a patient's eye, comprising:

providing an ophthalmic device with a intraocular pressure monitoring system comprising an energy source in electrical connection and capable of energizing a micro-piezoelectric element with an electronic feedback circuit and a controller comprising a computer processor, a digital media storage device, a transmitter in logical communication with the processor and also in logical communication with a communication network;

outputting a signal using the micro-piezoelectric element:

receiving and measuring a return signal resulting from the outputted signal with the electronic feedback circuit; and

determining the intraocular pressure of a user's eye using the measured return signal.

14. The method of claim 13, additionally comprising:

sending a signal to a wireless device in wireless communication with the processor of the ophthalmic device, wherein the signal corresponds to the intraocular pressure determination.

15. The method of claim 13, additionally comprising:

sending a visual alert to the user through a photon emitter element forming part of the ophthalmic device and in connection with the communication network when the intraocular pressure is outside a predetermined threshold.

16. The method of claim 13, additionally comprising:

sending an audible signal to the user through an electromechanical transducer forming part of the ophthalmic device and in connection with communication network when the intraocular pressure is outside a predetermined threshold.

17. The method of claim 14, wherein the wireless device is one or more of a cellular device, a biomedical device, a drug dispensing device, a tablet, and a personal computer.

18. The method of claim 13, additionally comprising:

recording the intraocular pressure determination as part of the patient's medical history.

19. The method of claim 18, additionally comprising:

dispensing an active agent when the intraocular pressure determination falls outside a predetermined threshold.

20. A method of monitoring intraocular pressure of a patient's eye, comprising:

providing an ophthalmic device with an intraocular pressure monitoring system comprising an energy source in electrical connection and capable of energizing a micro-piezoelectric element with an electronic feedback circuit and a controller comprising a computer processor, a digital media storage device, a transmitter in logical communication with the processor and also in logical communication with a communication network;

outputting a signal using the micro-piezoelectric element:

receiving and measuring a return signal resulting from the outputted signal with the electronic feedback circuit;

determining the intraocular pressure of a user's eye using the measured return signal; and

recording the determined intraocular pressure in the digital media storage device.

CLAIMS

1. An ophthalmic device with an intraocular pressure monitoring system, the ophthalmic device comprising:

a media insert comprising a front curve arcuate surface and a back curve arcuate surface, wherein the front curve arcuate surface and the back curve arcuate surface form a cavity capable of containing an energy source dimensioned to conform to an area within the cavity, wherein the energy source is in electrical connection and capable of energizing a micro-piezoelectric element with an electronic feedback circuit and a controller, the controller comprising a computer processor in digital communication with a digital media storage device and wherein the digital media storage device stores software code;

a transmitter in logical communication with the processor and also in logical communication with a communication network, wherein the software is executable upon demand and operative with the processor to:

output a signal using the micro-piezoelectric element;

detect the change of the outputted signal using the electronic feedback circuit; and

determine the intraocular pressure of a user's eye using the detected change of said outputted signal.

2. The ophthalmic device of claim 1, additionally comprising: a radio frequency antenna in connection with the communication network and capable of transmitting data with a wireless device.

3. The ophthalmic device of claim 2, wherein the software is additionally operative with the processor to:

send a signal to the wireless device when the determined intraocular pressure is outside a predetermined threshold.

4. The ophthalmic device of claim 2, additionally comprising: a photon emitter element in connection with the communication network and capable of providing a visual signal to the user when the determined intraocular pressure is outside a predetermined threshold.

5. The ophthalmic device of claim 2, additionally comprising: a micro-electromechanical transducer capable of transmitting an audible signal to the user when the determined intraocular pressure is outside a predetermined threshold.

6. The ophthalmic device of claim 2, wherein the software is operative with the processor to:

transmit, through the antenna, to a drug dispensing device a signal to dispense an active agent when the detelmined intraocular pressure is outside a predetermined threshold.

7. The ophthalmic device of claim 6, wherein the active agent is a medication including one or more active agents of: prostaglandin analogs, beta blockers, alpha agonists, and carbonic anhydrase inhibitors.

8. The ophthalmic device of claim 1, additionally comprising: one or more reservoir(s) capable of containing a volume of an active agent used to treat glaucoma.

9. The ophthalmic device of claim 8, wherein the software is operative with the processor to:

dispense, from the one or more reservoir(s), an active agent when the determined intraocular pressure is outside a predetermined threshold.

10. The ophthalmic device of claim 1, wherein the software is operative with the processor to:

correlate a change of intraocular pressure with an associated event.

11. The ophthalmic device of claim 1, wherein the software is operative with the processor to:

record one or both an action or a feedback from the Ophthalmic Device after the intraocular pressure is determined to be outside a predetelmined threshold.

12. The ophthalmic device of claim 1, wherein the energy source is fabricated using stacked integrated component device packaging technologies.

13. A method of monitoring the intraocular pressure of a patient's eye, comprising:

providing an ophthalmic device with a intraocular pressure monitoring system comprising: a media insert comprising a front curve arcuate surface and a back curve arcuate surface, wherein the front curve arcuate surface and the back curve arcuate surface form a cavity capable of containing an energy source dimensioned to conform to an area within the cavity, wherein the energy source is in electrical connection and capable of energizing a micro- piezoelectric element with an electronic feedback circuit and a controller, the controller comprising a computer processor; a digital media storage device; a transmitter in logical communication with the processor and also in logical communication with a communication network;

outputting a signal using the micro-piezoelectric element:

receiving and measuring a return signal resulting from the outputted signal with the electronic feedback circuit; and

determining the intraocular pressure of a user's eye using the measured return signal.

14. The method of claim 13, additionally comprising:

sending a signal to a wireless device in wireless communication with the processor of the ophthalmic device, wherein the signal corresponds to the intraocular pressure determination.

15. The method of claim 13, additionally comprising:

sending a visual alert to the user through a photon emitter element forming part of the ophthalmic device and in connection with the communication network when the

intraocular pressure is outside a predetermined threshold.

16. The method of claim 13, additionally comprising:

sending an audible signal to the user through an electromechanical transducer forming part of the ophthalmic device and in connection with communication network when the intraocular pressure is outside a predetermined threshold.

17. The method of claim 14, wherein the wireless device is one or more of a cellular device, a biomedical device, a drug dispensing device, a tablet, and a personal computer.

18. The method of claim 13, additionally comprising:

recording the intraocular pressure determination as part of the patient's medical history.

19. The method of claim 18, additionally comprising:

dispensing an active agent when the intraocular pressure determination falls outside a predetermined threshold.

20. A method of monitoring intraocular pressure of a patient's eye, comprising:

providing an ophthalmic device with an intraocular pressure monitoring system

comprising an energy source in electrical connection and capable of energizing a micro-piezoelectric element with an electronic feedback circuit and a controller comprising a computer processor, a digital media storage device, a transmitter in logical communication with the processor and also in logical communication with a

communication network;

outputting a signal using the micro-piezoelectric element:

receiving and measuring a return signal resulting from the outputted signal with the electronic feedback circuit;

determining the intraocular pressure of a user's eye using the measured return signal; and

recording the determined intraocular pressure in the digital media storage device.