





**Table 1:** Comparison Table of Display Technologies

	E-ink	TFT-LCD	OLED	TN-LCD	Ch-LCD
Mechanism	Charged particles movement in capsules	Twist of liquid crystal	Emissive layer of organic compounds	Twist of liquid crystal	Twist of cholesterol liquid crystal
Bistable	⊙	X	X	X	○
Reflectivity	⊙	?	X	?	?
Power	⊙	X	X	?	⊙
Contrast Ratio	○	⊙	⊙	?	X
Response Time	?	○	⊙	○	?
Color	?	⊙	⊙	○	?
Viewing Angle	⊙	○	⊙	?	?
⊙ :Great   ○ :Good   ? :Acceptable   X:Bad/don't support					

### 2.3 Wireless Technology

We use wireless communication for the transfer of information between two or more points that are not connected by an electrical conductor. A radio frequency (RF) signal refers to a wireless electromagnetic signal used as a form of communication, if one is discussing wireless electronics. Radio waves are a form of electromagnetic radiation with identified radio frequencies that range from 3Hz to 300 GHz.

RF is any frequency within the electromagnetic spectrum associated with radio wave propagation. When an RF current is supplied to an antenna, an electromagnetic field is created that then is able to propagate through space.

Providing health care professionals the ability to remotely program devices, and providing the ability of physicians to remotely access and monitor patient data regardless of the location of the patient or physician (hospital, home, office, etc...)[16] An RF module (radio frequency module) is a (usually) small electronic device used to transmit and/or receive radio signals between two devices.

Most standard, well known types are covered here:

- Transmitter module
- Receiver module
- Transceiver module

An RF transmitter module is a small PCB sub-assembly capable of transmitting a radio wave and modulating that wave to carry data. Transmitter modules are usually implemented alongside a micro controller which will provide data to the module which can be transmitted.

An RF Receiver module receives the modulated RF signal, and demodulates it. There are two types of RF receiver modules: super heterodyne receivers and super-regenerative receivers. Super-regenerative modules are usually low cost and low power designs using a series of amplifiers to extract modulated data from a carrier wave. Super-regenerative modules are generally imprecise as their frequency of operation varies considerably with temperature and power supply voltage. Super heterodyne receivers have a performance advantage over super-regenerative; they offer

increased accuracy and stability over a large voltage and temperature range.

An RF Transceiver module incorporates both a transmitter and receiver. Signals through RF can travel through larger distances making it suitable for long range applications. RF signals can travel even when there is an obstruction between transmitter & receiver. RF communication uses a specific frequency.

**Figure 4:** The figure show mechanism of Wireless Technology

**Table 2:** Frequency Band Designations

f	λ	Band	Description
30-300 Hz	10 <sup>4</sup> -10 <sup>3</sup> km	ELF	Extremely low frequency
300-3000 Hz	10 <sup>3</sup> -10 <sup>2</sup> km	VLF	Voice frequency
3-30 kHz	100-10 km	VLF	Very low frequency
30-300 kHz	10-1 km	LF	Low frequency
0.3-3 MHz	1-0.1 km	MF	Medium frequency
3-30 MHz	100-10 m	HF	High frequency
30-300 MHz	10-1 m	VHF	Very high frequency
300-3000 MHz	100-10 cm	UHF	Ultra-high frequency
3-30 GHz	10-1 cm	SHF	Superhigh frequency
30-300 GHz	10-1 mm	EHF	Extremely high frequency (millimeter waves)

Table 2 shows a relationship between frequency (f) and wavelength (λ). A wave or sinusoid can be completely described by either its frequency or its wavelength. They are inversely proportional to each other and related to the speed of light through a particular medium. The relationship in a vacuum is shown in the following equation:

$$C = f \cdot \lambda$$

Where c is the speed of light

### 2.4 Sterilization

[17] Sterilization is a term referring to any process that eliminates (removes) or kills all forms of life, including transmissible agents (such as fungi, bacteria, viruses, spore forms, etc.) present on a surface, contained in a fluid, in medication, or in a compound such as biological culture media. Sterilization can be achieved by applying heat, chemicals, irradiation, high pressure, and filtration or combinations thereof. We can use steam under pressure (autoclave) that is the most dependable and economical

method of sterilization. It is the method of choice for metal ware, glassware, most rubber goods, and dry goods. Heat destroys microorganisms, but this process is hastened by the addition of moisture. Direct saturated steam contact is the basis of the steam process. Steam, for a specified time at required temperature, must penetrate every fiber and reach every surface of items to be sterilized. When steam enters the sterilizer chamber under pressure, it condenses upon contact with cold items. This condensation liberates heat, simultaneously heating and wetting all items in the load, thereby providing the two requisites: moisture and heat. Most prepackaged sterile items like surgical gloves and suture packets have been sterilized with ionizing radiation. Exposure of these items to a radioactive source, such as cobalt 60, destroys microorganisms. The surgical gloves can be sterilized using gamma radiation from <sup>60</sup>Co.

### 2.5 Camera

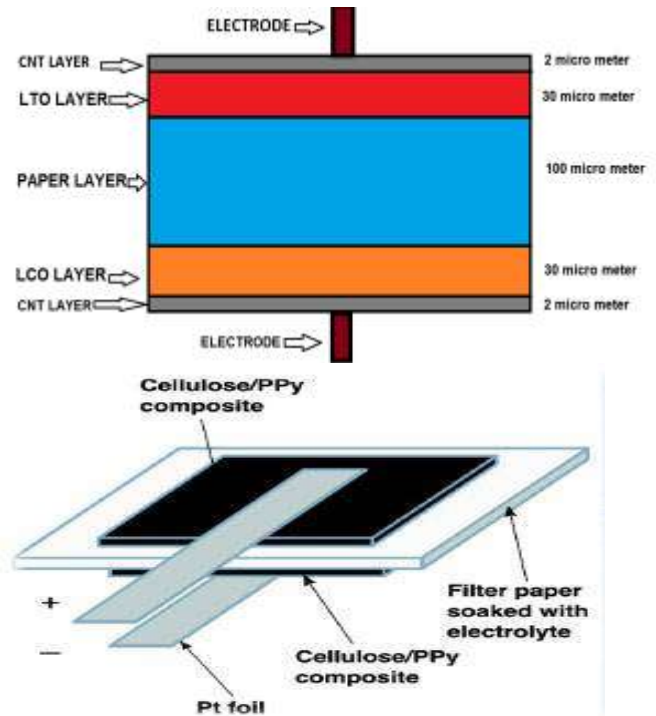
In this glove, we use camera for seeing organs and we can use this camera during surgery. We can also use this camera for telemedicine. It can be helpful for doctor to see some vessels or organ by camera during operation.

### 2.6 Sensor

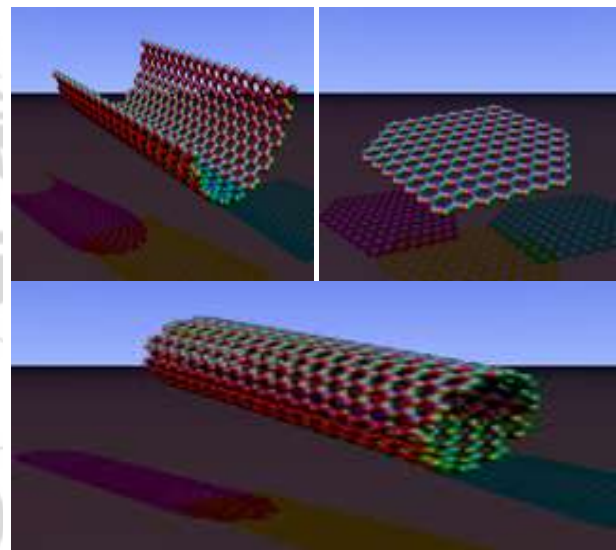
In this glove, we use different sensors for measuring temperature, blood pressure and etc. These sensors help to measuring blood pressure or temperature or etc during treatment. It can make ease treatment and no need to extra device. We can connect these senses on finger of gloves and it is ease to handle or ease to use during treatment.

### 2.7 Paper Battery

A paper battery is a flexible, ultra-thin energy storage and production device formed by combining carbon nanotube with a conventional sheet of cellulose-based paper. A paper battery acts as both a high-energy battery and super-capacitor, combining two components that are separate in traditional electronics. Generally Li-ion re-chargeable batteries are used in mobiles, laptops and most of the electronic devices. The flexible battery can function even if it is rolled up, folded or cut. Nanotubes are members of the fullerene structural family. The diameter of a nanotube is on the order of a few nanometers. Their name is derived from their long, hollow structure with the walls formed by one-atom-thick sheets of carbon, called graphene. These sheets are rolled at specific and discrete angles, and the combination of the rolling angle and radius decides the nanotube properties. Paper batteries may be folded, cut or otherwise shaped for different applications without any loss of integrity or efficiency. These are environmentally friendly and can be recycled.

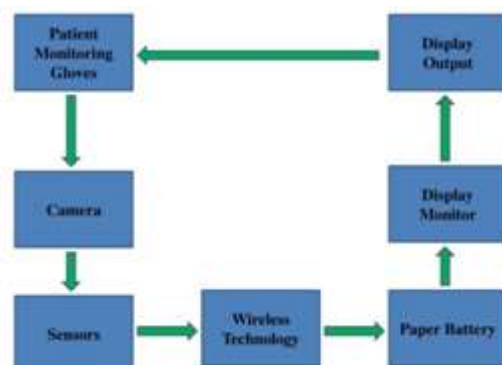


**Figure 5:** Structures of paper battery, the components are molecularly attached to each other.

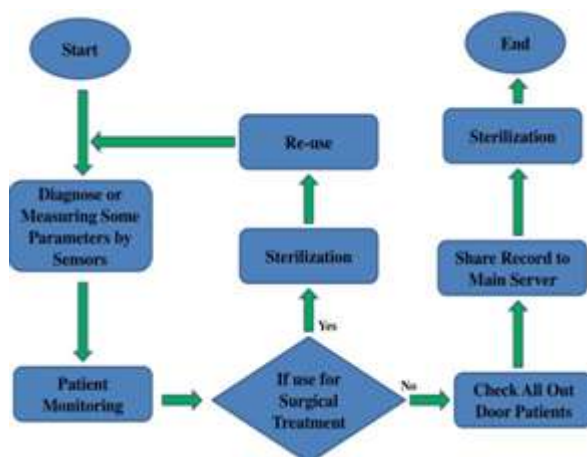


**Figure 6:** Graphene structure, Rolled at angle, Carbon nanotube

## 3. Block Diagram



#### 4. Flow Chart



#### 5. Conclusion

The paper has described that the system and the research mechanism of Monitoring Gloves for Surgical or Non Surgical which provides an immense help and support to physician. Medical glove not only help in operation and also help in diagnosis and treatment of common patients. It will be helpful in Telemedicine and provide better healthcare in villages where health facility is not available. It not only works as a patient monitor but also help as diagnostic gloves. It saves money, time of doctor and provides quick help in treatment. Our aim is to provide good healthcare everywhere in the world because Allah says that if anyone saved a person; it would be as if he saved the whole humanity. No doubt, the best work is to help humanity.

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