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Everyone is aware of the basic function of a transducer, i.e. to convert one form of energy into another. Ultrasound transducer is an important part of medical examinations and it is extensively used in different types of medical devices. An ultrasound transducer constitutes of different parts including parts for producing waves, parts for transmitting waves and reception of ultrasonic waves. This article will discuss the basic parts of every ultrasonic transducer and how these parts work together to perform the desired action.

Ultrasound transducers produce mechanical waves with the help of crystals. Piezoelectric effect is used for producing waves from crystals by the application of electric current. It is possible to change the frequency of ultrasonic transducers by varying the voltage applied to the device. The basic crystal used in ultrasonic transducer is shaped into a circular lens. A two-dimensional image is produced by using set of ultrasound transducer. This special design of the lens helps in producing focused beam. Every ultrasound machine comes with multiple settings for focus which allows the machine to picture objects of different sizes easily. Electronic focusing helps in achieving required focus and control to get perfect results.

Another important part of ultrasound machine is the gel used to remove the air between the skin and transducer. It is important to get rid of any reflections that may result into distorted images and further, the gel helps in proper propagation of sound waves. The reflection of ultrasound waves are then received by the device and this energy is often converted into mechanical energy which is further converted into digital image. This is the way ultrasound machines bring out proper image of the targeted object with perfect shape. It is best to have proper inspection and maintenance of machine for better image results.

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Nishaidhijames - About Author:
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