

Computerized Tomography (CT)

SUPERVISOR :

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GROUP :

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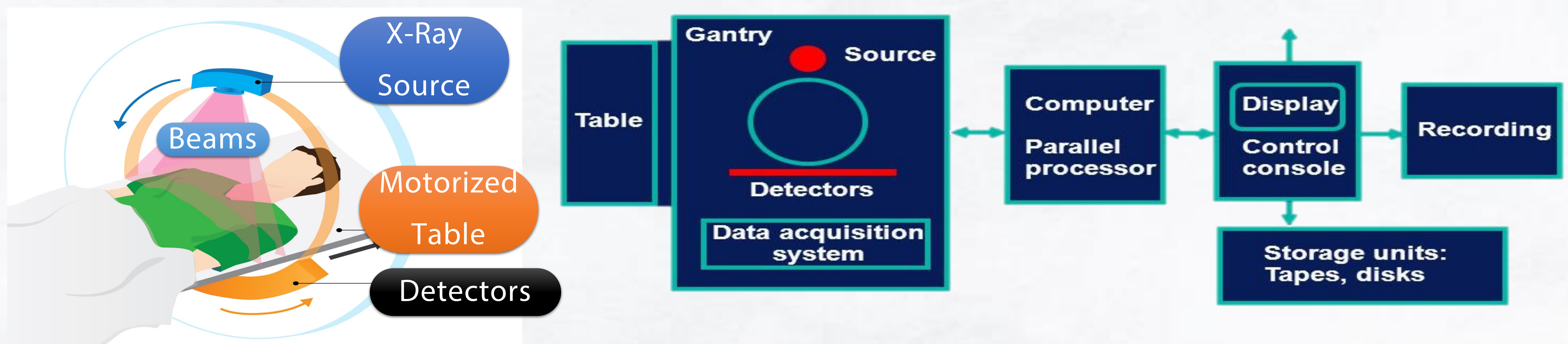
INTRODUCTION :

It is a medical technique that uses X-rays and computers to create three-dimensional images of the human body 3D, but it is different from the traditional X-ray machine, which is used to image dense parts such as the skeleton and some parts, it gives details of soft tissues such as muscle tissue, blood vessels or organs such as the brain .



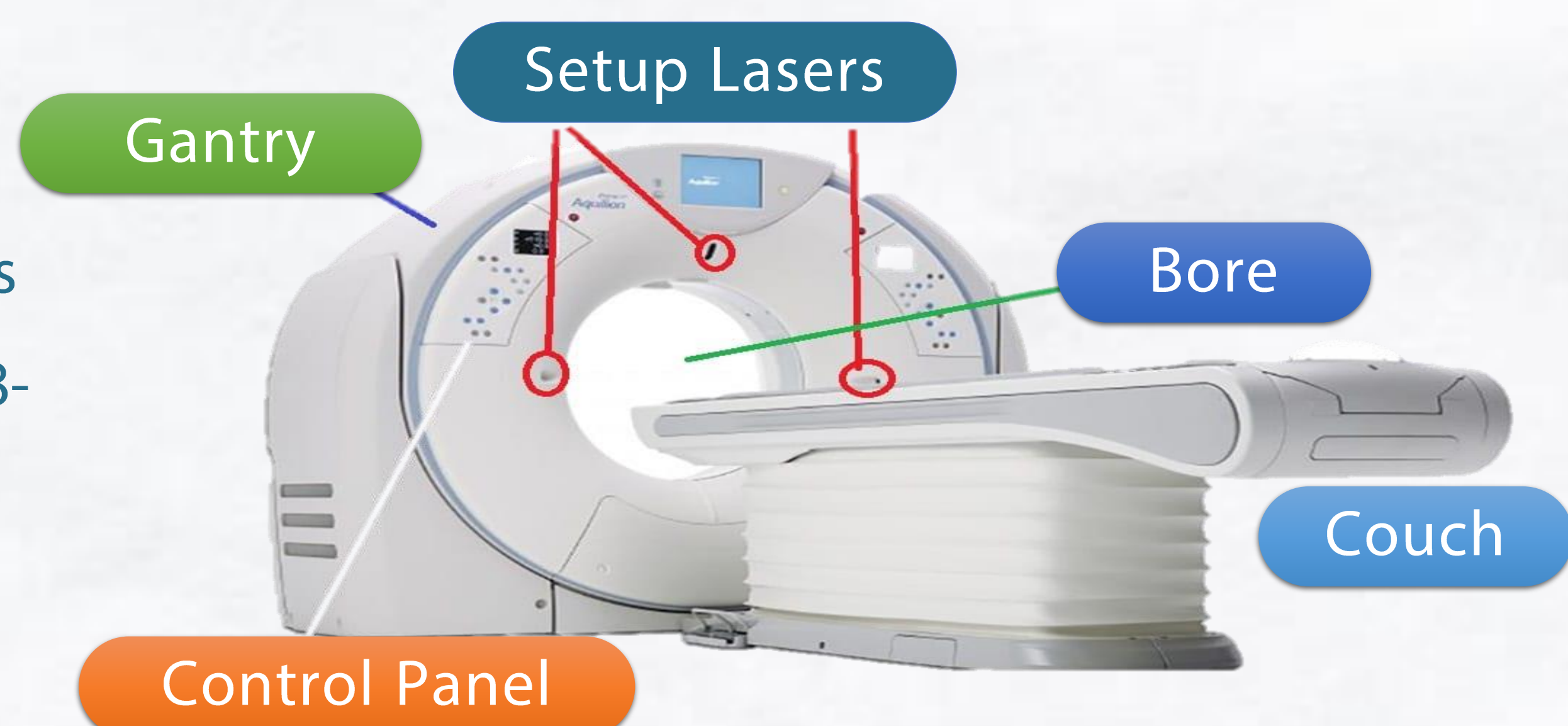
Operation:

Use a narrow X-ray beam that circles around one part of your body. This provides a series of images from many different angles. A computer uses this information to create a cross-sectional picture. Like one piece in a loaf of bread, this two-dimensional (2D) scan shows a "slice" of the inside of your body. This process is repeated to produce a number of slices. The computer stacks these scans one on top of the other to create a detailed image of your organs, bones, or blood vessels. For example, a surgeon may use this type of scan to look at all sides of a tumor to prepare for an operation.



Components:

- 1- Generator
- 2- Scan Frame
- 3- Array of Detectors
- 4- Gantry
- 5- Generator
- 6- Patient Table
- 7- Filtration
- 8- Collimators
- 9- X-ray Tube
- 10- Aperture



Uses :

1. Bone fractures and tumors.
2. Heart diseases
3. Soft tissues
4. Treatment plans and procedures
5. Brain and abdomen .

