**Medical equipment**

**I. Read and translate the text using a dictionary.**

Medical equipment is designed to aid in the [diagnosis](https://en.wikipedia.org/wiki/Diagnosis), monitoring or treatment of [medical conditions](https://en.wikipedia.org/wiki/Medical_condition).

There are several basic types:

         [Diagnostic](https://en.wikipedia.org/wiki/Medical_diagnosis) equipment includes [medical imaging](https://en.wikipedia.org/wiki/Medical_imaging) machines, used to aid in diagnosis. Examples are [ultrasound](https://en.wikipedia.org/wiki/Medical_ultrasonography) and [MRI](https://en.wikipedia.org/wiki/MRI) machines, [PET](https://en.wikipedia.org/wiki/Positron_emission_tomography) and [CT](https://en.wikipedia.org/wiki/Computed_tomography) scanners, and [x-ray machines](https://en.wikipedia.org/wiki/X-ray_machine).

         Treatment equipment includes [infusion pumps](https://en.wikipedia.org/wiki/Infusion_pump), medical [lasers](https://en.wikipedia.org/wiki/Laser) and [LASIK](https://en.wikipedia.org/wiki/LASIK) surgical machines.

         [Life support](https://en.wikipedia.org/wiki/Life_support) equipment is used to maintain a patient's bodily function. This includes [medical ventilators](https://en.wikipedia.org/wiki/Medical_ventilator), [anaesthetic machines](https://en.wikipedia.org/wiki/Anaesthetic_machine" \t "_blank" \o "Anaesthetic machine), [heart-lung machines](https://en.wikipedia.org/wiki/Heart-lung_machines) and [dialysis machines](https://en.wikipedia.org/wiki/Dialysis_machine).

         [Medical monitors](https://en.wikipedia.org/wiki/Medical_monitors) allow medical staff to measure a patient's medical state. Monitors may measure patient vital signs and other parameters including [ECG](https://en.wikipedia.org/wiki/ECG), [EEG](https://en.wikipedia.org/wiki/Electroencephalography), and [blood pressure](https://en.wikipedia.org/wiki/Blood_pressure).

         Medical laboratory equipment automates or helps analyze [blood](https://en.wikipedia.org/wiki/Blood), [urine](https://en.wikipedia.org/wiki/Urine), [genes](https://en.wikipedia.org/wiki/Gene), and [dissolved gases](https://en.wikipedia.org/wiki/Blood_gas_monitor) in the blood.

         Diagnostic Medical Equipment may also be used in the home for certain purposes, e.g. for the control of [diabetes](https://en.wikipedia.org/wiki/Diabetes) mellitus

         Therapeutic: physical therapy machines like [continuous passive range of motion (CPM) machines](https://en.wikipedia.org/wiki/Continuous_passive_motion)

**II. Answer the questions.**

1.      What is medical equipment?

2.      What types of medical equipment are there?

3.      Are x-ray machines diagnostic equipment?

4.      What can medical monitors measure?

5.      When are life support equipment used?

6.      Dialysis machine is life support equipment, isn’t it?

7.      Are MRI machines treatment or diagnostic equipment?

**III. Make up 3 questions to the text.**

**III.Find the English equivalent of the following words in the text.**

Медицинское оборудование, диагностическое оборудование, рентген аппарат, аппарат УЗИ, томограф, аппараты жизнеобеспечения, аппарат ИВЛ, наркозный аппарат, измерять, основные показатели, исследовать, использовать, контролировать терапевтическое оборудование.

**IV.Fill the table.**

|  |  |  |
| --- | --- | --- |
| **Diagnostic equipment** | **Therapeutic equipment** | [**Life support**](https://en.wikipedia.org/wiki/Life_support)**equipment** |
|  |  |  |

**V. Translate the sentences into English.**

1.      Существует несколько видов медицинского оборудования.

2.      Современное медицинское оборудование предназначено для диагностики и лечения заболеваний.

3.      Диагностическое оборудование позволяет выявлять заболевания на ранней стадии.

4.      При помощи терапевтического оборудования осуществляется лечение различных заболеваний.

5.      Медицинские мониторы отслеживают состояние организма.

**The history of medical equipment**

**VI. Read and translate the text using a dictionary.**

It is clear to see that medicine has advanced massively through the years along with the equipment and resources that are used. Medical instruments that were used in the past may not be in use any more as with each day new and advanced resources and equipment are constantly being updated to facilitate the growing demand on the medical industry and the renowned breakthroughs that are happening in medicine every day. Antique medical equipment that has been used within the previous years can become extremely valuable to collectors.

In 15th century Europe, during and after the horrors of the bubonic plague, autopsies began to be performed at universities, and a primitive form of 'scientific method' began to take hold in the minds of the educated. Practical surgery and anatomy studies began. These curious medieval Europeans laid the foundation for modern science.

The use of medical technologies in diagnosis and treatment started in the nineteenth century. The sphygmomanometer was invented by Samuel Siegfried Karl Ritter von Basch and was used to measure blood pressure. The spirometer was invented by John Hutchinson in 1846 and was used to measure the vital capacity of the lungs. The last half of the twentieth century witnessed a tremendous growth in the use of technology in medicine. It is estimated that the growth of medical technology in the past five decades exceeded all advances made during the previous two millenia. One major factor responsible for the growth of medical technology is the integration of science and engineering with medicine. For instance, imaging devices such as X-ray or magnetic resonance imaging (MRI) are based on advanced physics principles and specifically engineered for medical applications.

The applications of medical technologies include diagnosis of diseases (e.g. X-ray), treatment of diseases (e.g. chemotherapy for cancer), prevention of diseases (e.g. immunization), screening for diseases (e.g. mammography), rehabilitation (e.g. physical therapy), automation and reducing errors (e.g. computerized order physician entry) and improving quality of life of patients (e.g. artificial legs and arms).

**VII. Read the text again to decide whether these statements are true or false.**

1.      Medical equipment which was used a millennium ago may be in use to present day.

2.      Because of the smallpox epidemics, autopsies began to be performed at universities.

3.      The sphygmomanometer was used to measure blood pressure.

4.      The inquisitive ancient Greeks initiated the modern science.

5.      Enormous growth of medical equipment was at the beginning of 20th century.

6.      The main reason of the growth of medical technology is the integration of science and engineering with medicine.

**VIII. Match the words (1-5) with the correct meanings (a-e).**

|  |  |
| --- | --- |
| 1. catheter  2. syringe  3. thermometer  4. stethoscope  5. glucose meter | a. a medical instrument for [listening](http://www.oxforddictionaries.com/definition/english/listen#listen__2) to the action of someone’s heart or [breathing](http://www.oxforddictionaries.com/definition/english/breathing#breathing__2)  b. a [medical device](https://en.wikipedia.org/wiki/Medical_device) for determining the concentration of [glucose](https://en.wikipedia.org/wiki/Glucose) in the [blood](https://en.wikipedia.org/wiki/Blood)  c. a tube with a [hollow](http://www.oxforddictionaries.com/definition/english/hollow#hollow__2) needle for [injecting](http://www.oxforddictionaries.com/definition/english/inject#inject__2)  d. a [flexible](http://www.oxforddictionaries.com/definition/english/flexible#flexible__2) tube [inserted](http://www.oxforddictionaries.com/definition/english/insert#insert__2) through a narrow opening into a body  e. an instrument for measuring and indicating temperature |

**IX. Give a summary of the text (8-10 sentences). Use some words and expressions:**

1. This text is about …

2. The text contains the description of …

3. The main idea of the text is …

4. In my opinion

5. It should be noted …

6. In conclusion …

7. To sum up …