Hello, my fellow workers. Today I am going to talk about my favorite book once again. The title of the book is Handbook of medical imaging. The authors of the article are Jacob Beutel , J. Michael Fitzpatrick (Vanderbilt University), Steven C. Horii (University of Pennsylvania Health Systems), Yongmin Kim (University of Washington), Harold L. Kundel (University of Pennsylvania Health Systems), Milan Sonka (University of Iowa), Richard L. Van Metter (Eastman Kodak Company). The book is published by Spie Press in 2000.

The book consists of two parts and twenty chapters. I want to abstract one section from the first chapter.  
The title of this section is **X-ray dosimetry**. The main idea of the section is to show that X rays are silent, tasteless, and invisible, but X rays interact with matter by causing ionization, and this fact allows an x-ray beam to be measured using the ionization it produces.

The authors explain us that there are several features in the **X-ray dosimetry.**

In the first subsection, it is spoken in details about An *ionization chamber*. The *ionization chamber* is an air-filled chamber surrounded by electrodes (a positive and negative electrode). It is specially noted that Air Kerma (i.e. **k**inetic **e**nergy **r**eleased per unit **ma**ss) is sometimes used as a substitute for exposure (especially in Europe).

In the second part mention was made of ***Backscatter.*** When an x-ray beam is incident upon a low-Z solid such as a slab of water or a patient, there is an appreciable amount of *backscatter. Special attention was given to the detail that* the exposure measurements would be about 15% higher than if they were made *free-in-air.*

The following part is ***Equivalent dose and effective dose****.* Here mention was made of Radiation dose. Radiation dose is a measure of the energy/mass, but different kinds of radiation have different *relative biological effectiveness (RBE)*.

The next part is ***Deposition of dose in tissue****.* It is spoken in short about Monte Carlo simulation, because Monte Carlo techniques are used to estimate dose levels at various depths.

In conclusion, the article is well illustrated with diagrams and formulas. The information of the article may be recommended to specialists in medical physics.