Low-dose

Low-dose examination technique CT means an examination with a reduced dose of radiation. This is most often achieved by reducing the current to roentgence (mAs), or reducing the voltage to roentgence (kV). As the current decreases, the dose decreases approximately linearly, when the voltage is decreased, it decreases, for example, from 120 kV to 100 kV to approximately 60%. The disadvantage is increased quantum noise - the image is of lower quality and more grainy. Therefore, for the examination of various parts of the body, examination protocols are established for each CT machine in such a way as to achieve diagnostic image quality for the majority of patients.

Warning: in classical radiodiagnostics - e.g. taking a clear picture of the chest - it is true that the higher the kV, the lower the absorbed dose. That is why, for example, a so-called high-voltage technique (over 100 kV) is used for chest X-rays.

Iterative reconstruction

The pressure to further reduce the dose led major CT manufacturers to introduce so-called iterative reconstruction (e.g. IRIS, iDOSE). The reconstruction of data from a CT device is computationally more demanding, takes longer, but the images contain less noise, and therefore can be examined with a lower dose (up to 60% according to the manufacturers).

Links

- Radiodiagnostika Portal

Related Articles

- Protection against ionizing radiation