CT dose index

CT dose index (CTDI) is a measure of the radiation dose delivered by a computed tomography (CT) scanner during an imaging exam. It is an important parameter that is used to evaluate the radiation exposure associated with a particular CT examination.

CTDI is calculated by measuring the radiation dose delivered to a standardized phantom (a device that mimics the human body) during a CT scan. The phantom is typically a cylinder made of a material that simulates human tissue. The CTDI is reported as two values: CTDIvol, which represents the average dose delivered to a volume of tissue, and CTDIw, which represents the dose delivered to a single slice.

The CTDI value is used to determine the effective dose, which is a measure of the radiation dose that is absorbed by the patient during a CT examination. Effective dose takes into account the type of tissue being imaged, the age and sex of the patient, and other factors that affect radiation absorption.

CT scanners are designed to deliver the lowest possible radiation dose while still producing high-quality images. The CTDI value is an important tool that can help radiologists and other healthcare professionals ensure that patients receive safe and effective CT examinations.