

# Traditional imaging vs nuclear medicine

*How they work*

## Traditional imaging

## Nuclear medicine

### Common examples



X-ray  
CT scan



MRI  
Ultrasound



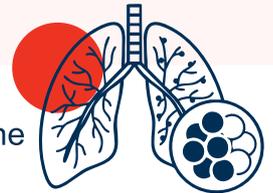
PET-CT scan

SPECT-CT scan

### Key difference



Shows **what** the body looks like



Shows **what** is happening and **how** the body functions

**Primary focus**



**Structure** (anatomy)



**Function** and **cellular activity** (physiology and metabolism)

Size, shape, fractures, masses, structural damage

### What it shows best

Blood flow, organ performance, cellular activity

### When it's most useful



Trauma



Detailed anatomy



Structural abnormalities



Cancer staging



Heart function



Infection or inflammation detection

**Strength**



High-resolution anatomical detail



Can **detect disease before structural changes** appear