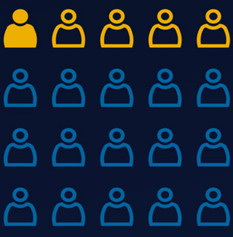
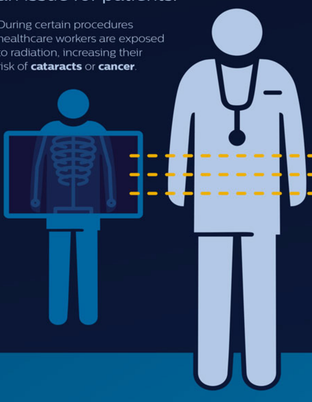
The real story behind **medical imaging radiation dose**

As accuracy has improved, the use of imaging has increased. A large part of this is due to CT scans. Today in the US 1 in 5 people receive a CT scan each year, 1 in 20 of these scans are unnecessary.



Radiation dose isn't just an issue for patients.

During certain procedures healthcare workers are exposed to radiation, increasing their risk of **cataracts** or **cancer**.



Nearly **68 million** CT scans are performed annually in the US

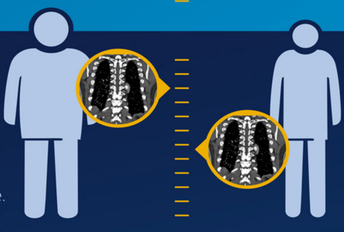
Knowing how you might be exposed to radiation isn't enough.

You also need to know how much.

Even though the radiation dose is larger, CT scans can be far better diagnostic tools than conventional X-rays. In some cases, CT scans have negated the need for exploratory surgery.

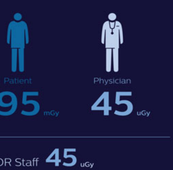
- 0.1 µSv — Eating a banana
- 0.4 µSv — Natural radiation in the human body
- 10 µSv — Background dose received on an average day
- 40 µSv — Flight from New York to LA
- 20 µSv — Chest X-ray
- 700 µSv — Mammogram
- 8,000 µSv — Average CT scan
- 14,000 µSv — F-18 PET scan
- 15,800 µSv — Fluoroscopic angiogram
- 50,000 µSv — Maximum yearly dose permitted for US radiation workers

The challenge is to balance the risk versus the benefit. This is called "justification".

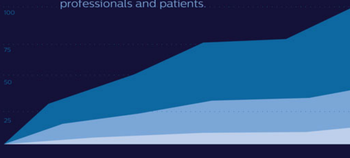


Today, sophisticated imaging software can improve image quality at a low dose. By "optimizing" the scan the patient gets

only the dose needed.



In addition to scan optimization we now have tools that can track dose levels for healthcare professionals and patients.



Education about the risks and benefits of medical imaging combined with new tools and protocols from the healthcare industry can help track and manage exposure for both healthcare workers and patients.

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To learn more about managing dose, **visit www.philips.com**