- Introduction
- Light & Endoscopy
- X-Rays
- Nuclear imaging
- Magnetic Resonance Imaging
- Ultrasound imaging

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- Principle :

–Radioactive tracer linked to a

–vector molecule

–The radioactive tracer emits gamma rays and can be localized through a gamma camera

- Example : Iodine 123, vector for thyroid

- Isotope production with short half-lives

- Back to stable state
– Emission of a single photo (one gamma ray) -> SPECT
– Emission of a Positon (2 gamma rays) -> PET

Génération de l'image — Électronique d'acquisition — Photomultiplicateurs — e⁻ — Guide de lumière — Photons de scintillation (410 nm) — Cristal à scintillation — Colimateur — D'après Aubrey 2004
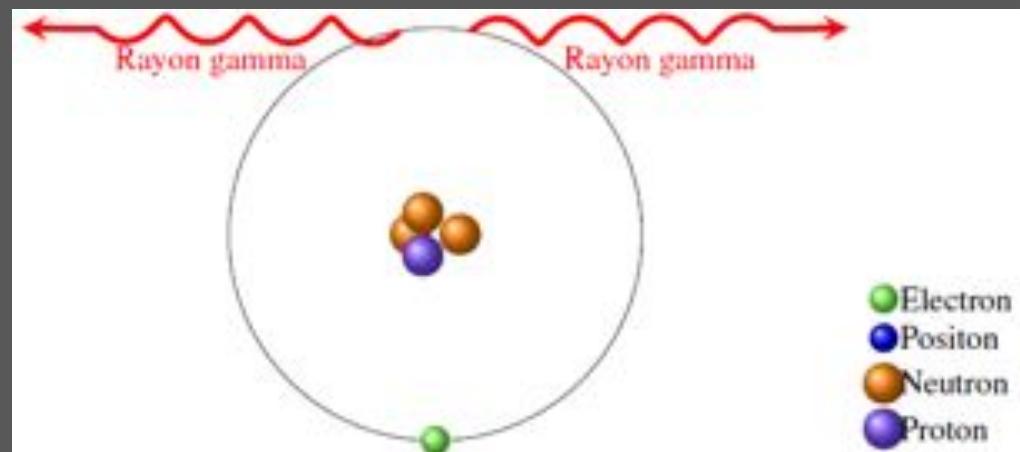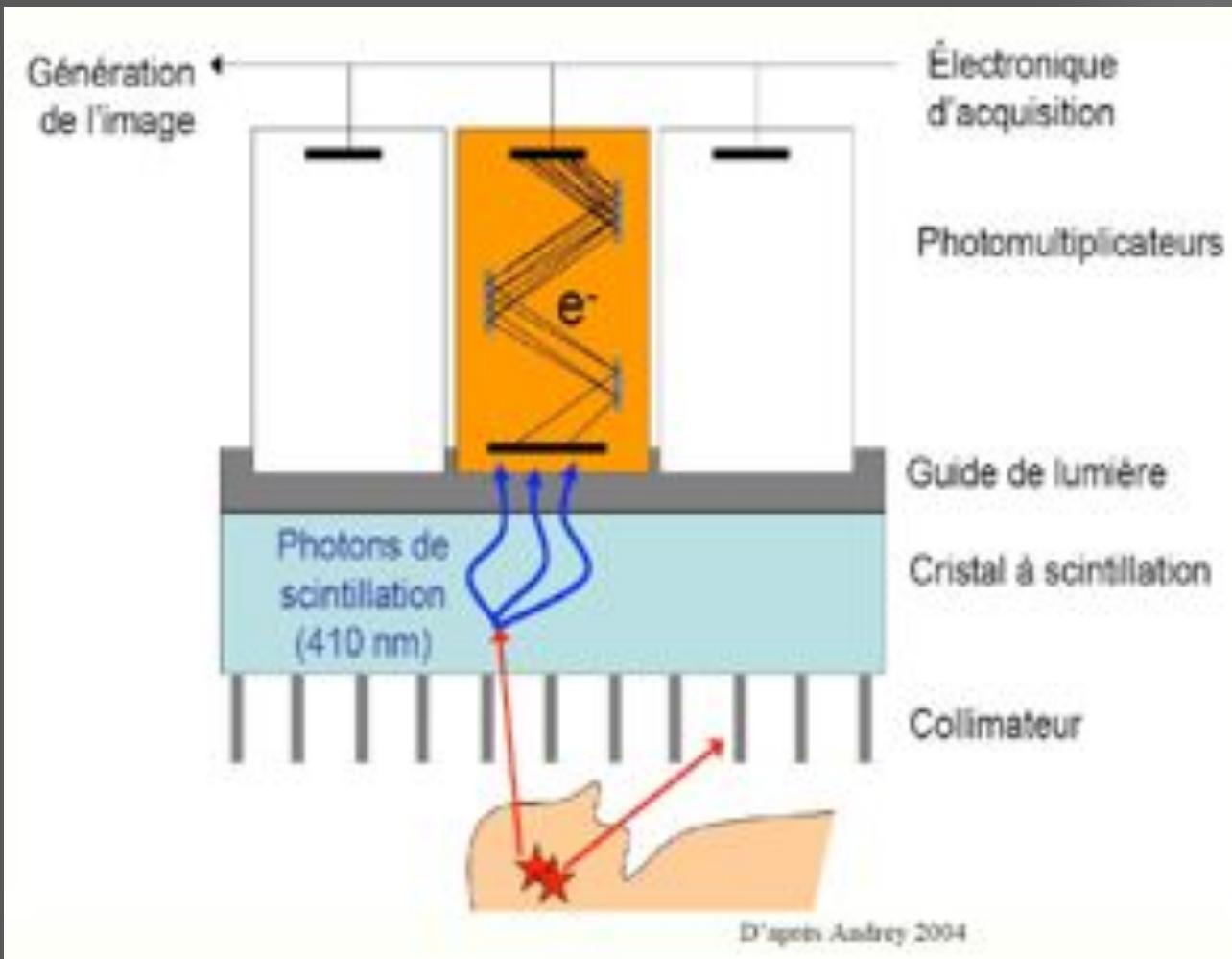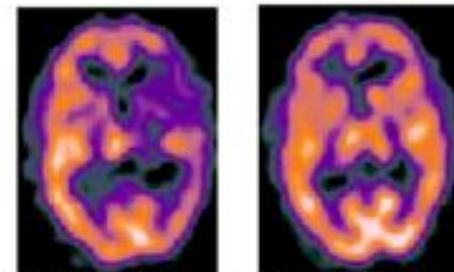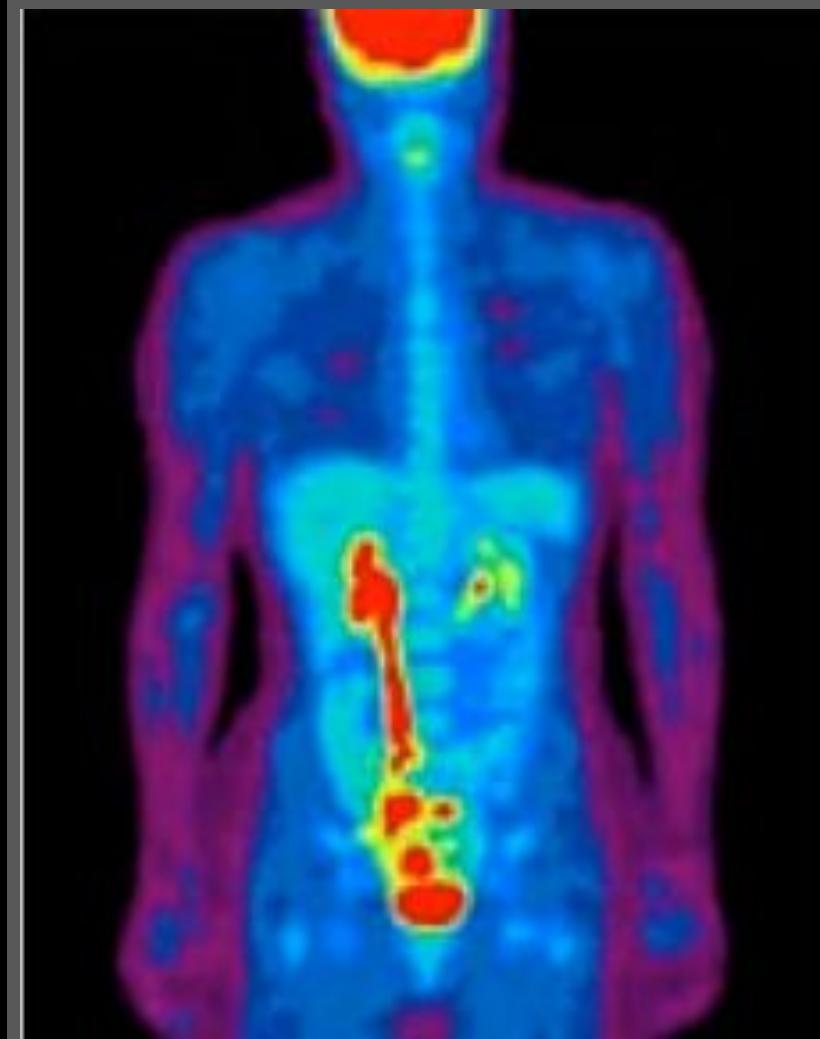
Figure 3 : Images de perfusion cérébrale normale (droite) et pathologique (gauche).

effort

repos

normal   ischémie   infarctus

D'après Andrey 2004
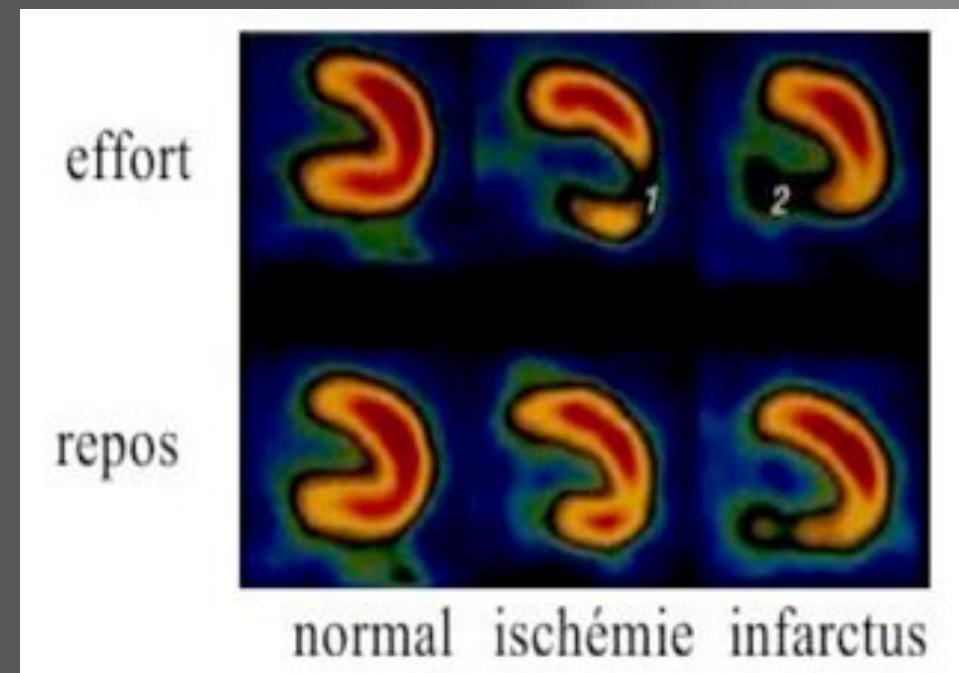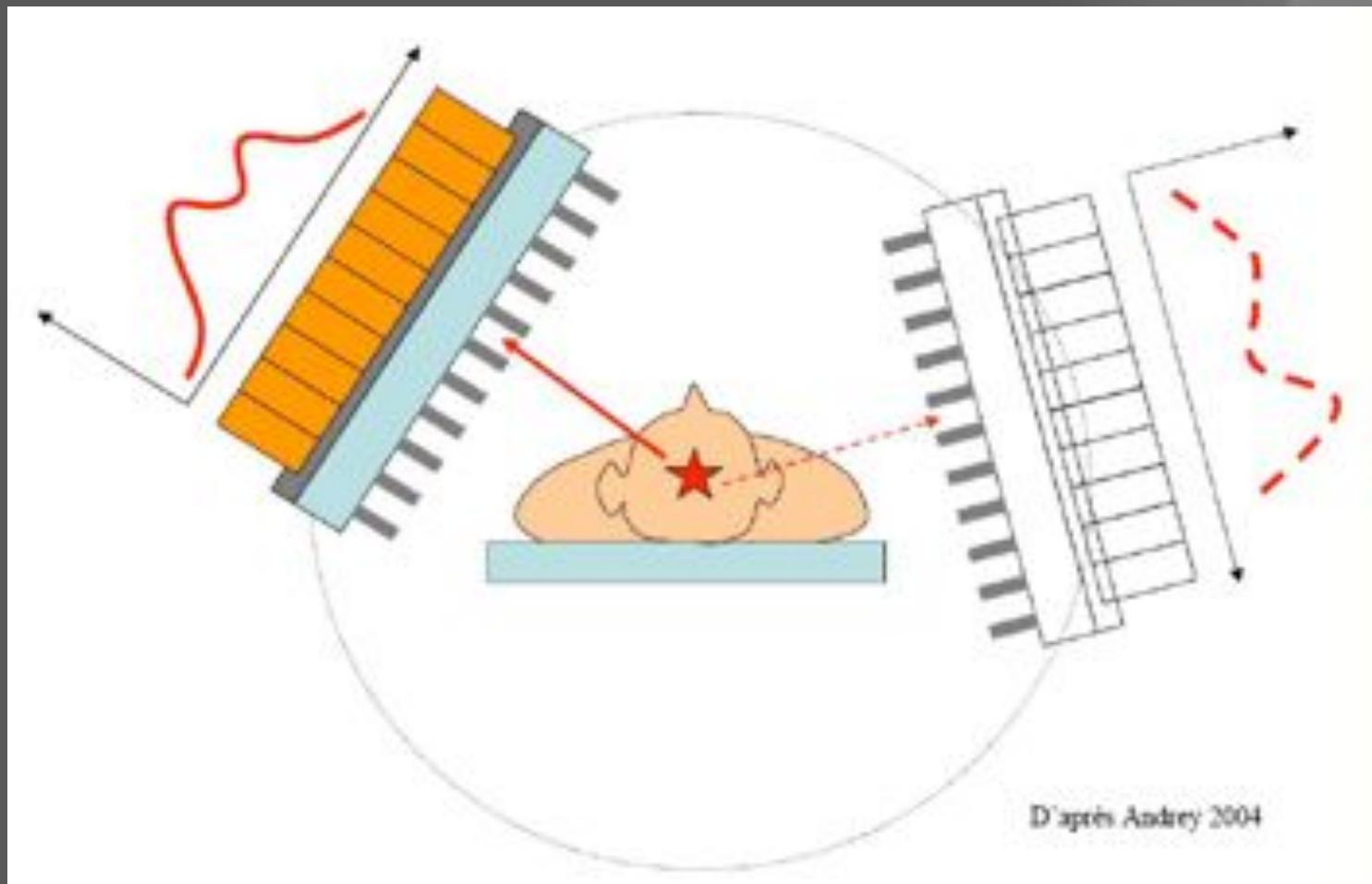
PET Scan
(brain activity)
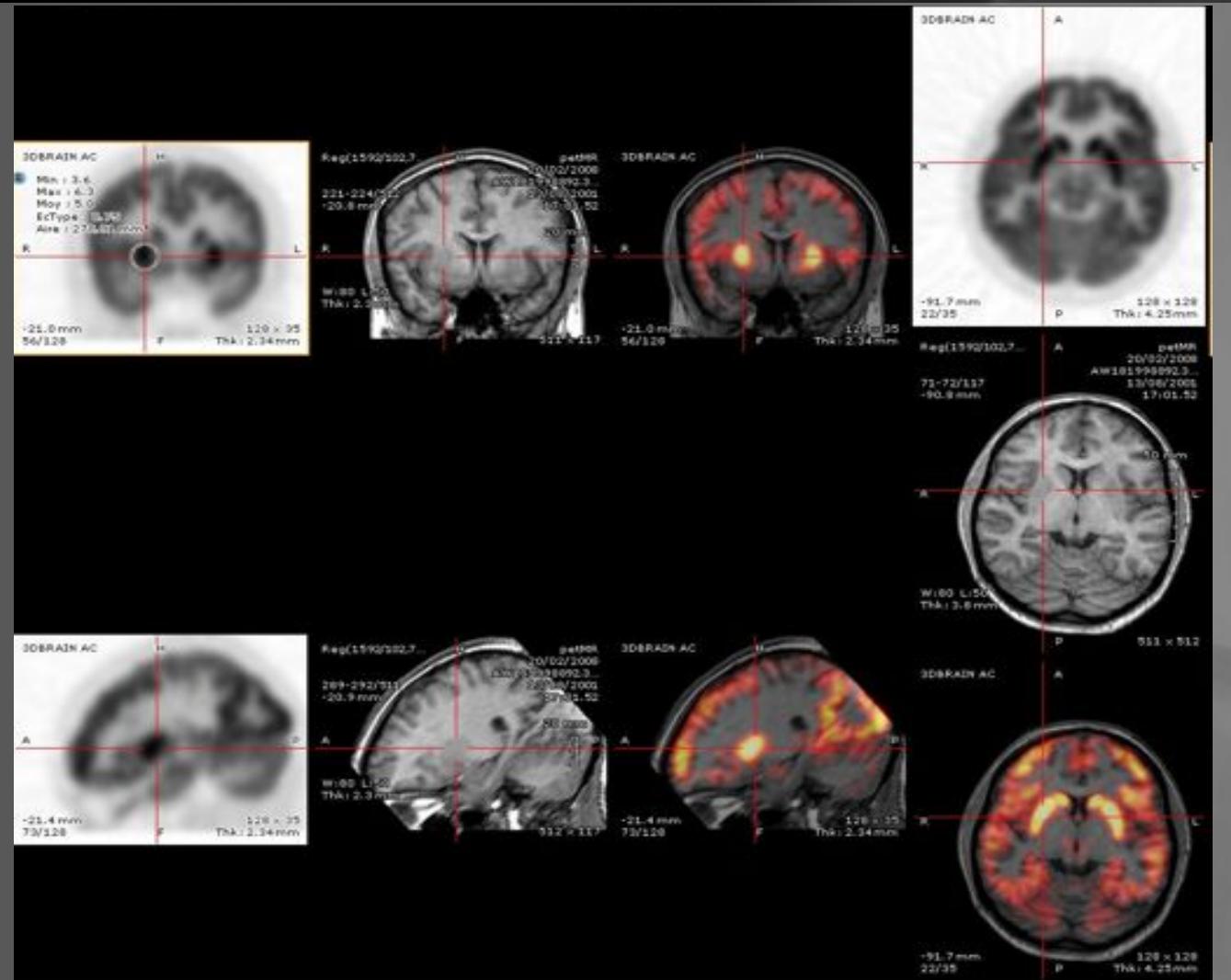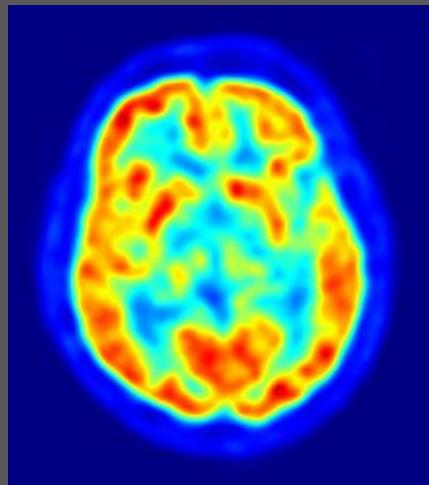
- Physiological, metabolical, (anatomical) information
- …