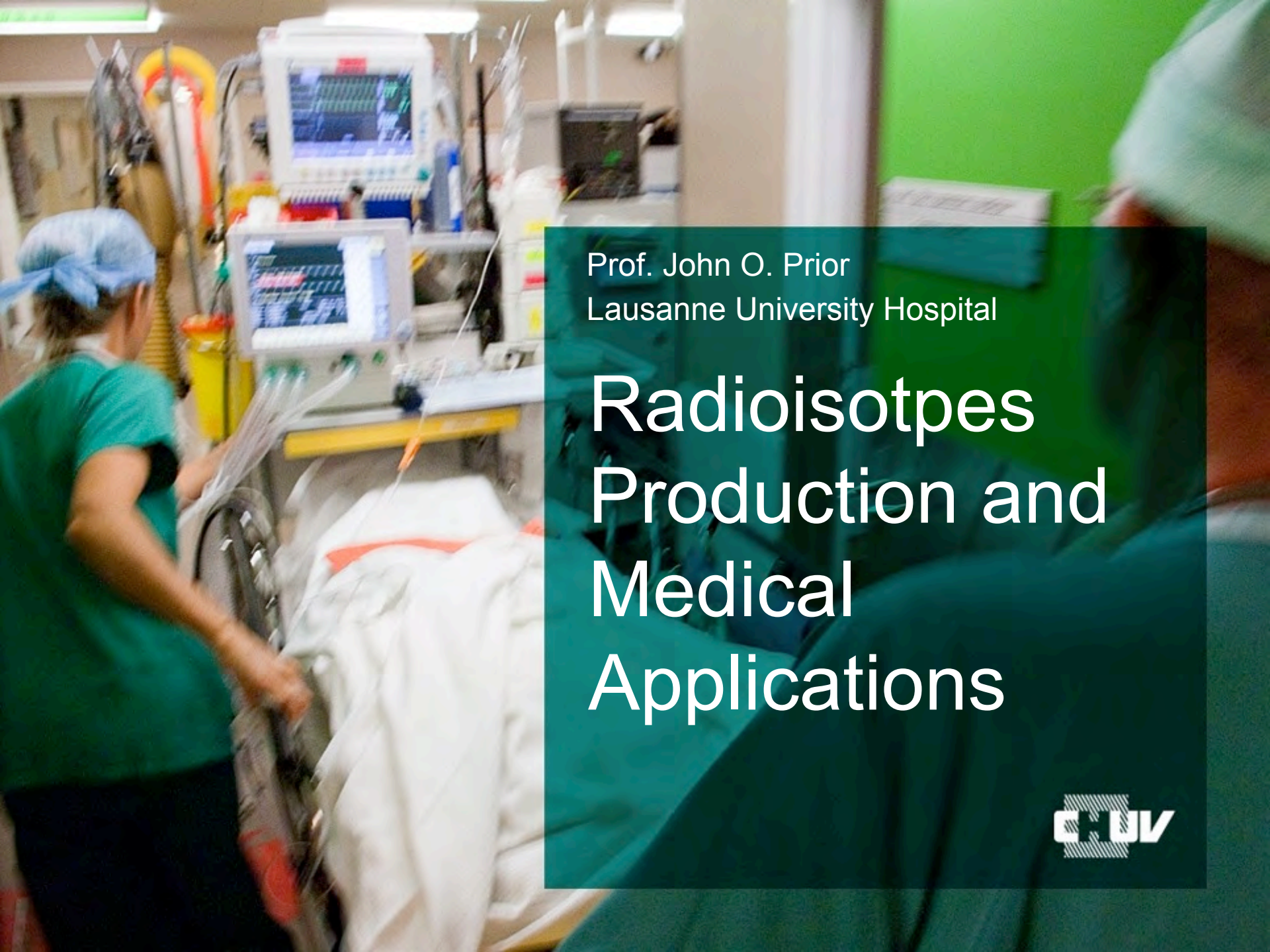
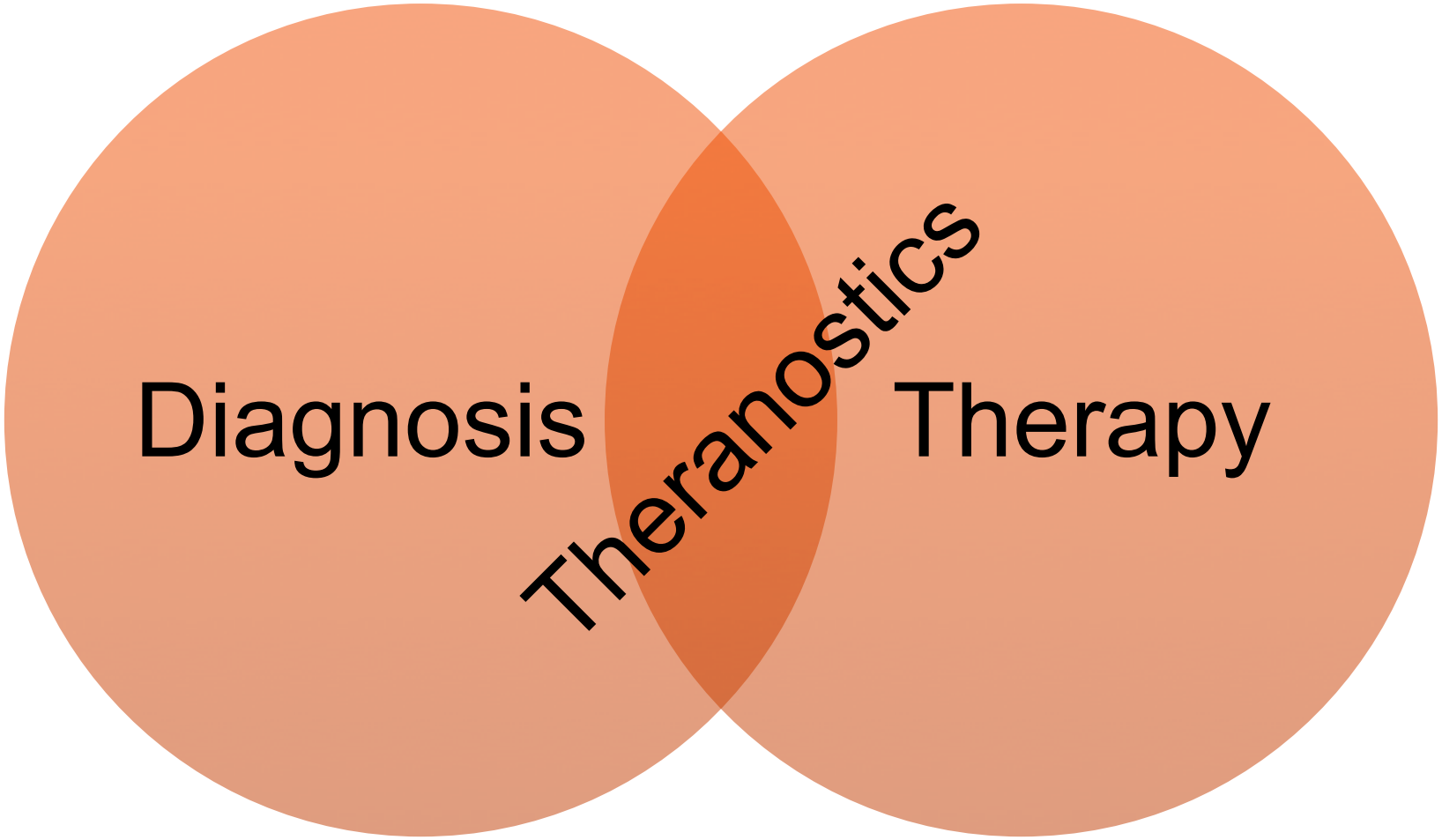


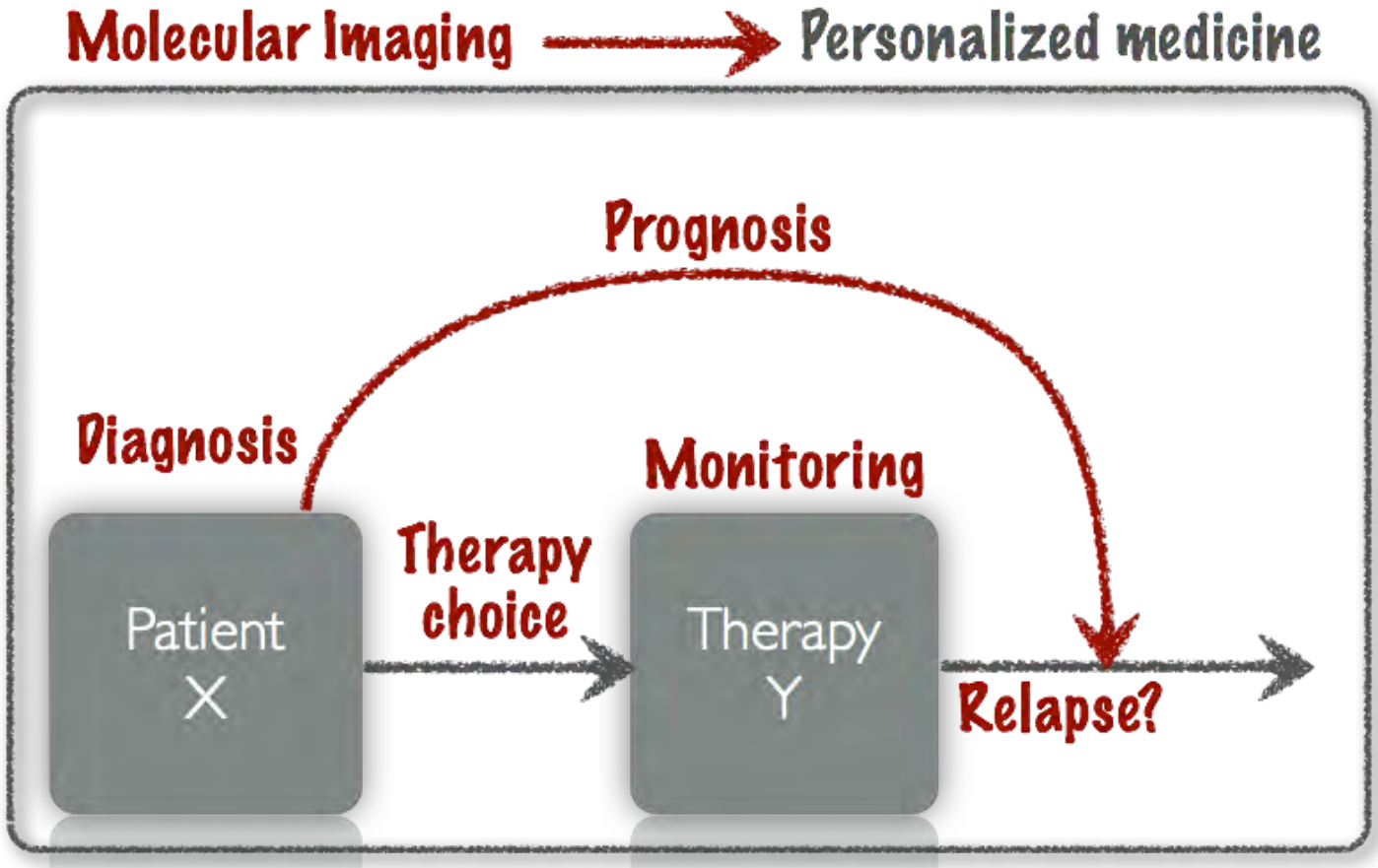
Prof. John O. Prior
Lausanne University Hospital

Radioisotpes Production and Medical Applications

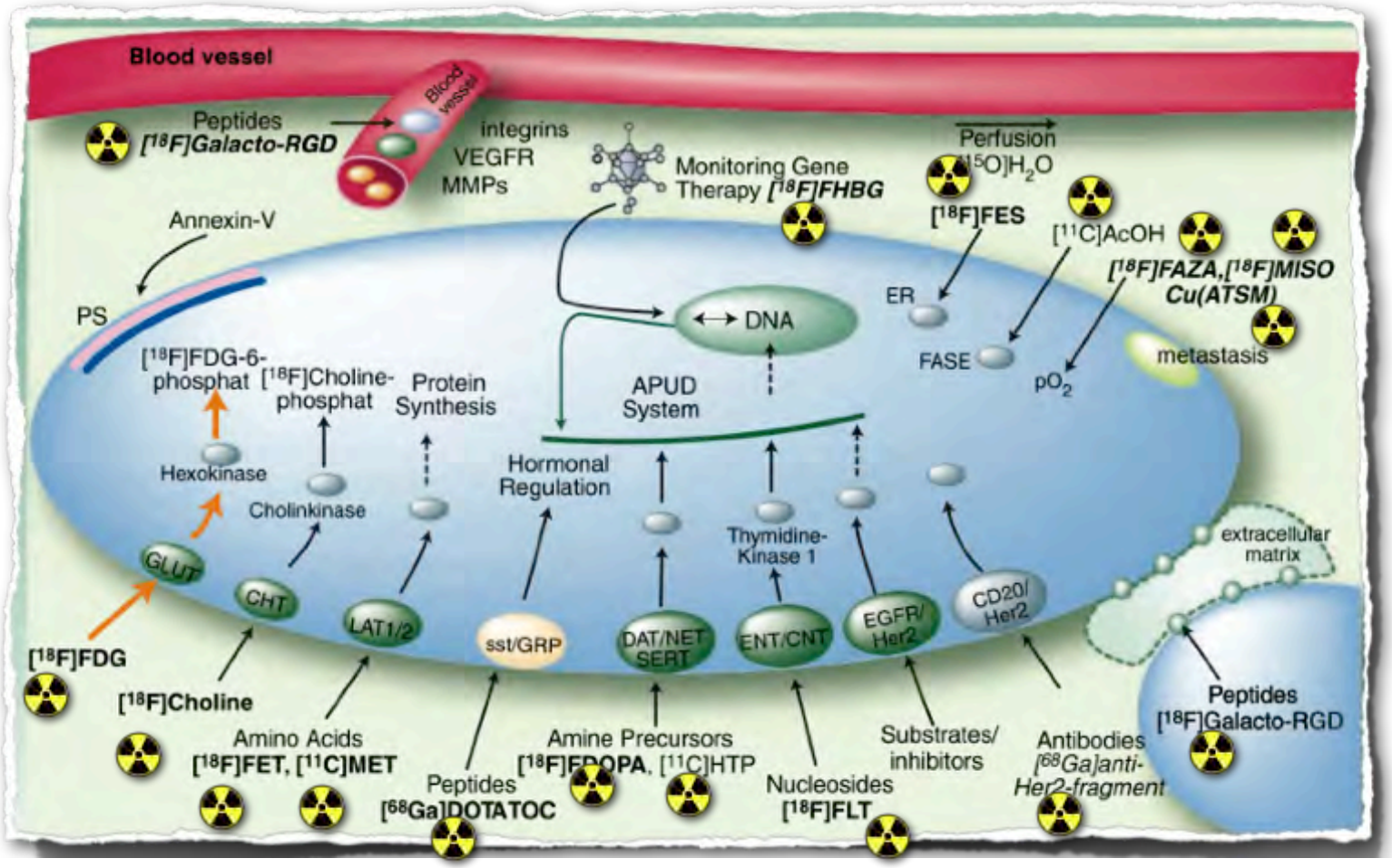
Radioisotpes Application



1. Diagnosis? → Not only

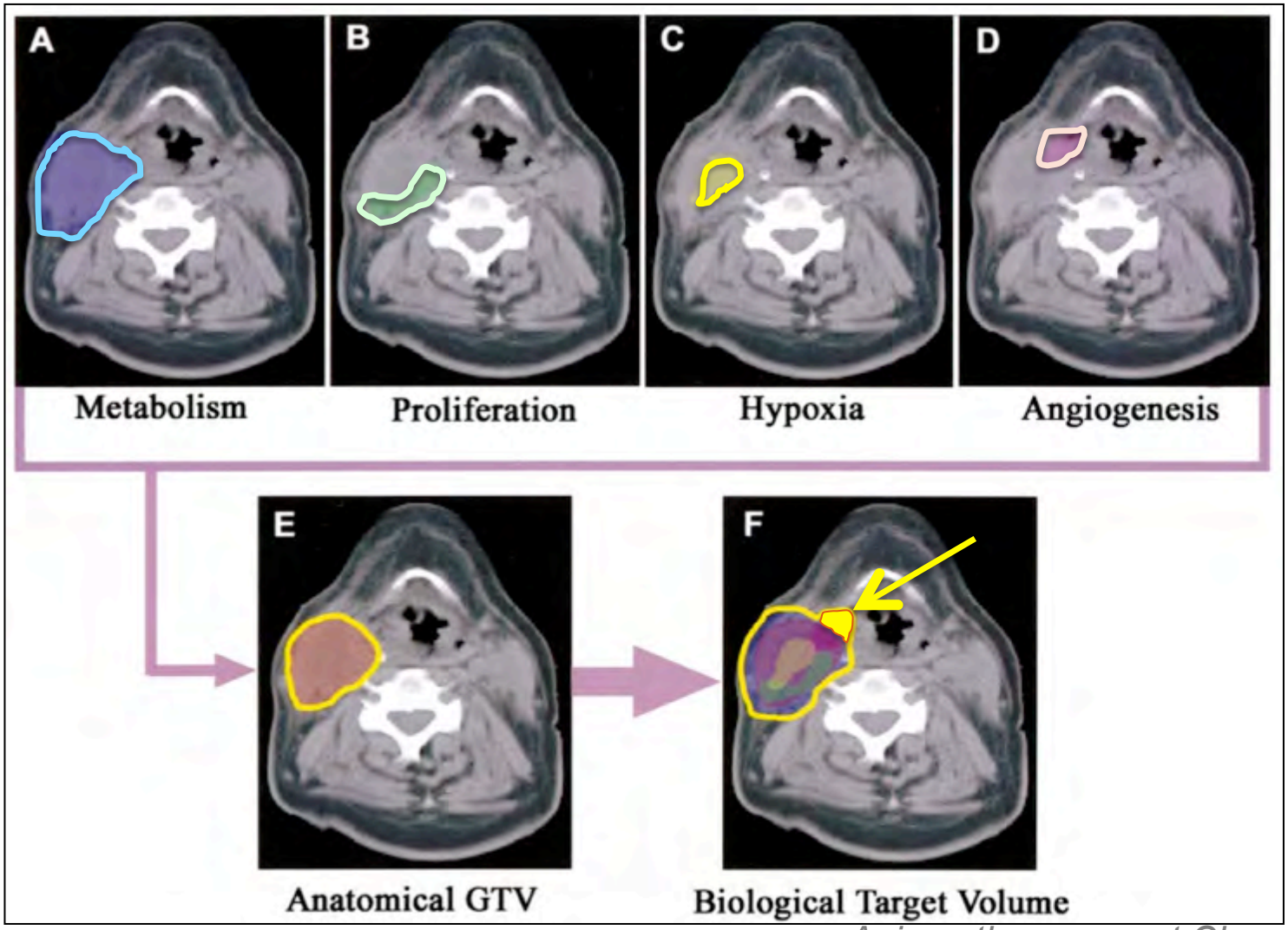


Radiositopes → Radiopharmaceuticals and Targets



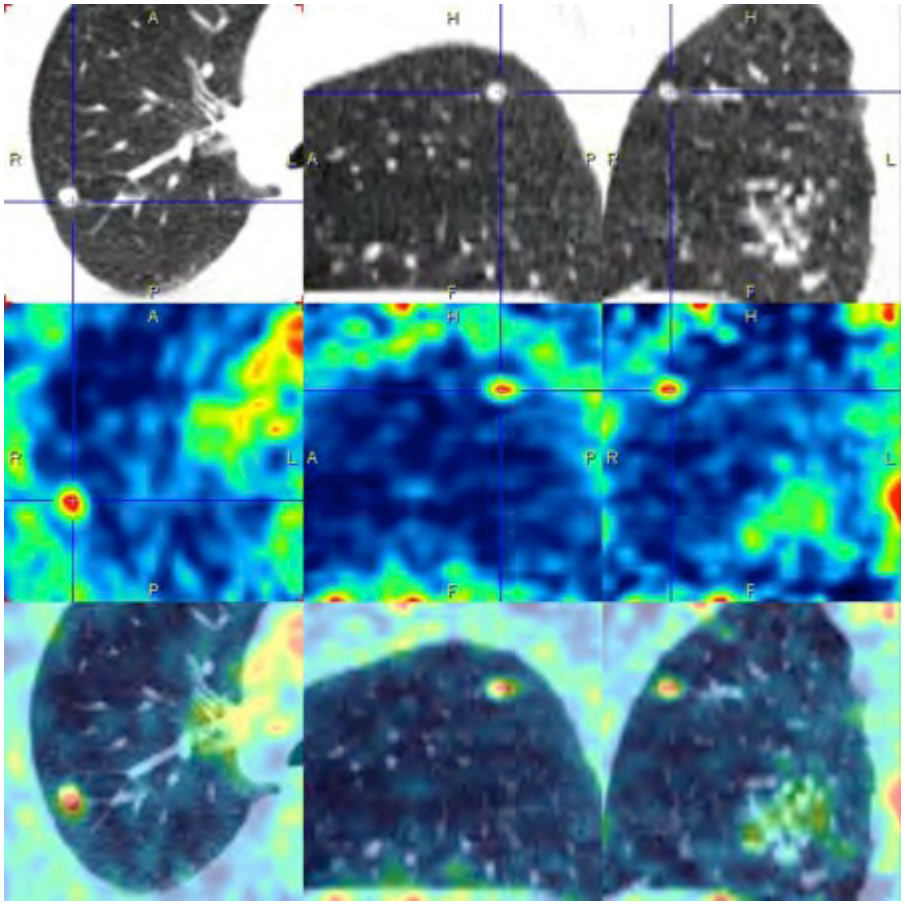
Wester HJ, Clin Canc Res 2007

PET/CT: Molecular imaging in vivo

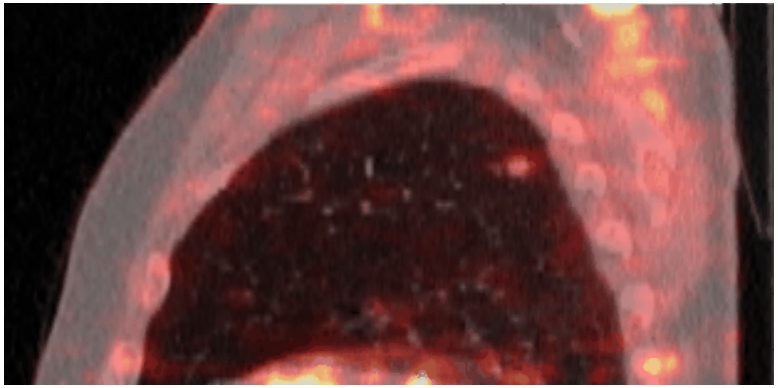


Apisarnthanaraxa et Chao 2005

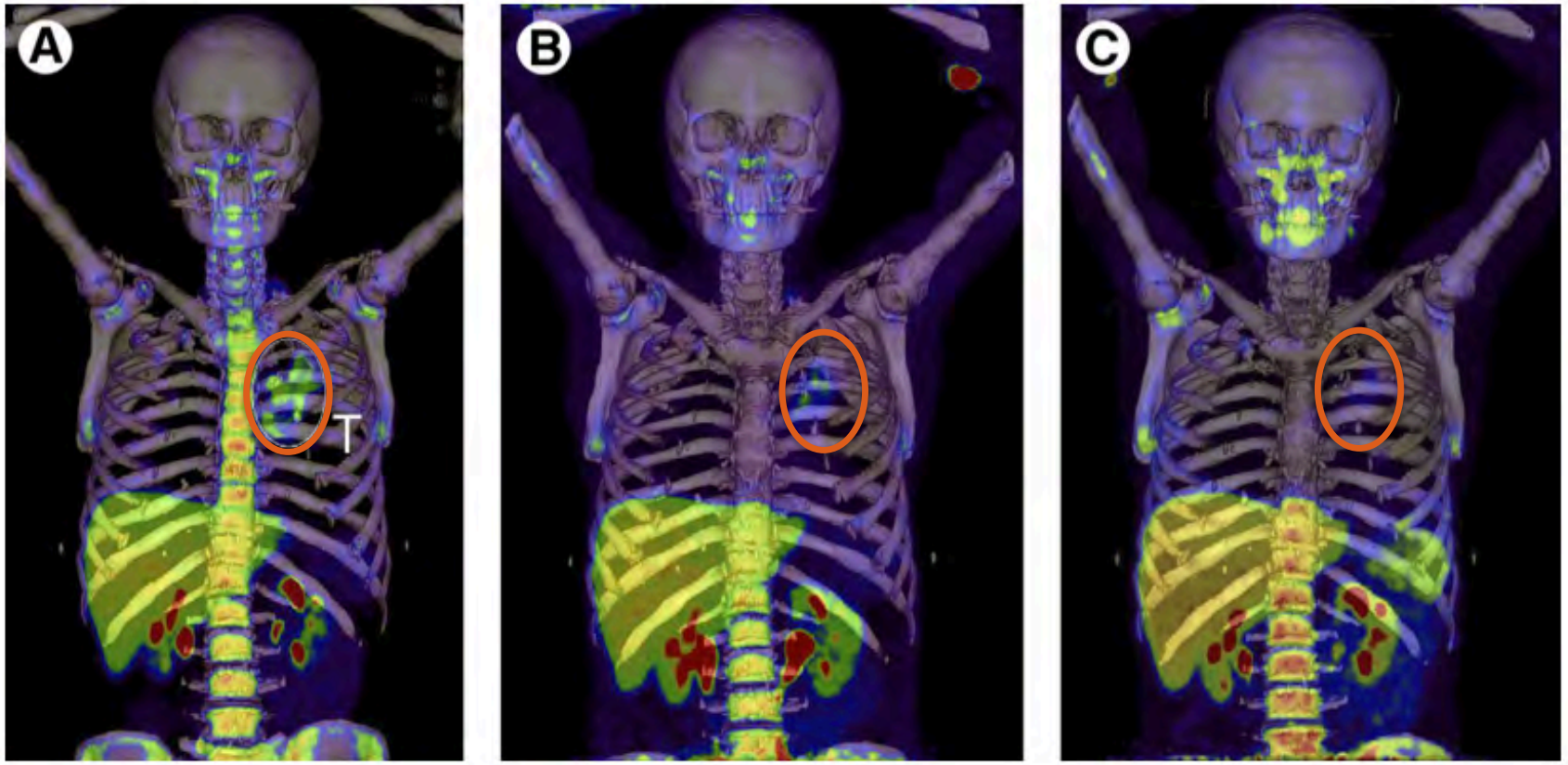
Image-guided therapy: Targeting the tumour?



In real life…



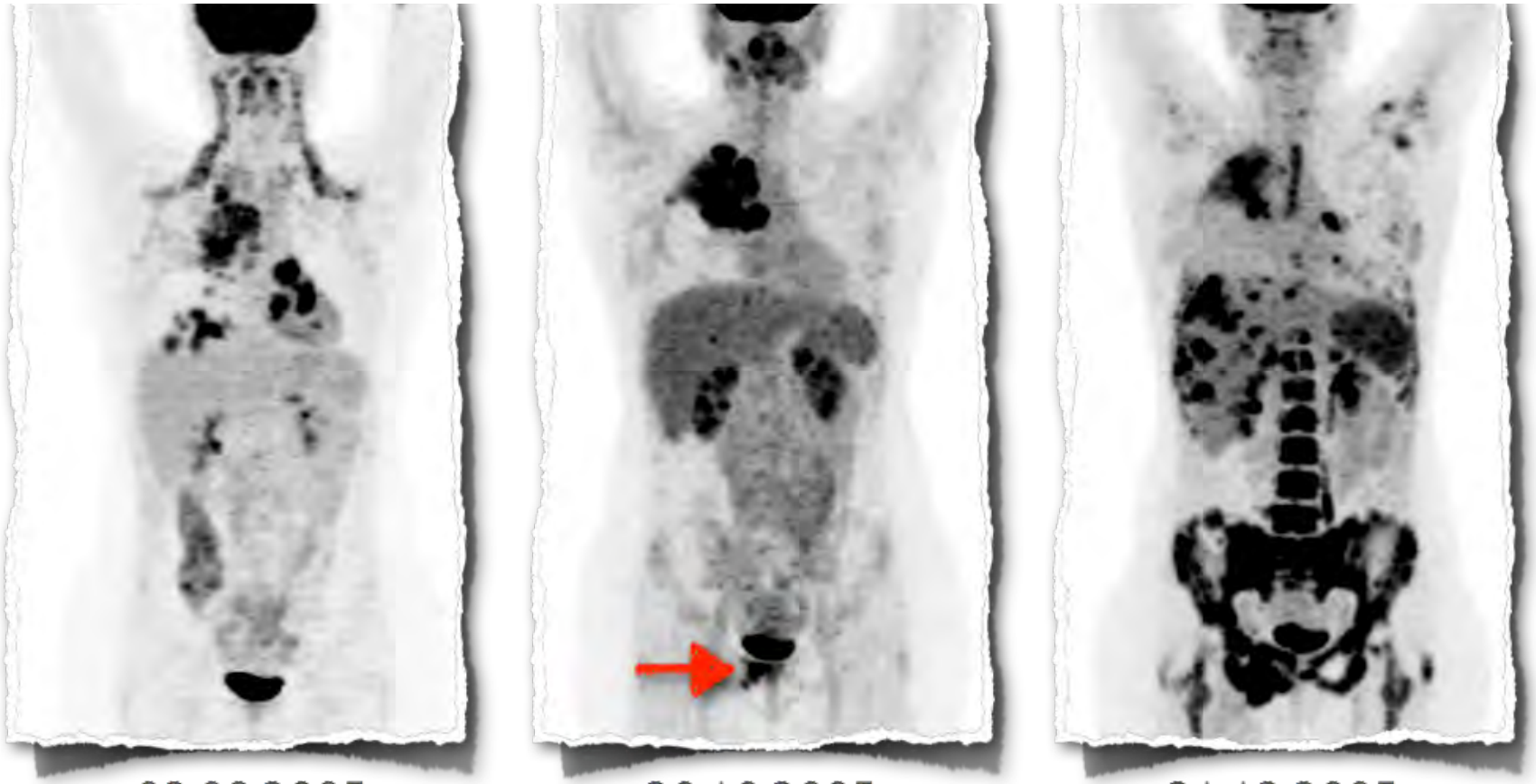
Adaptive Radiation Therapy: Response assessment during RT



^{18}F-FLT

Mac Manus (Sem Nucl Med 2012)

Multimodale Therapy



09.08.2005
Initial Staging

20.10.2005
After Chemotherapy

21.12.2005
after Radiation Therapy

New radioisotopes (*e.g.* Terbium)

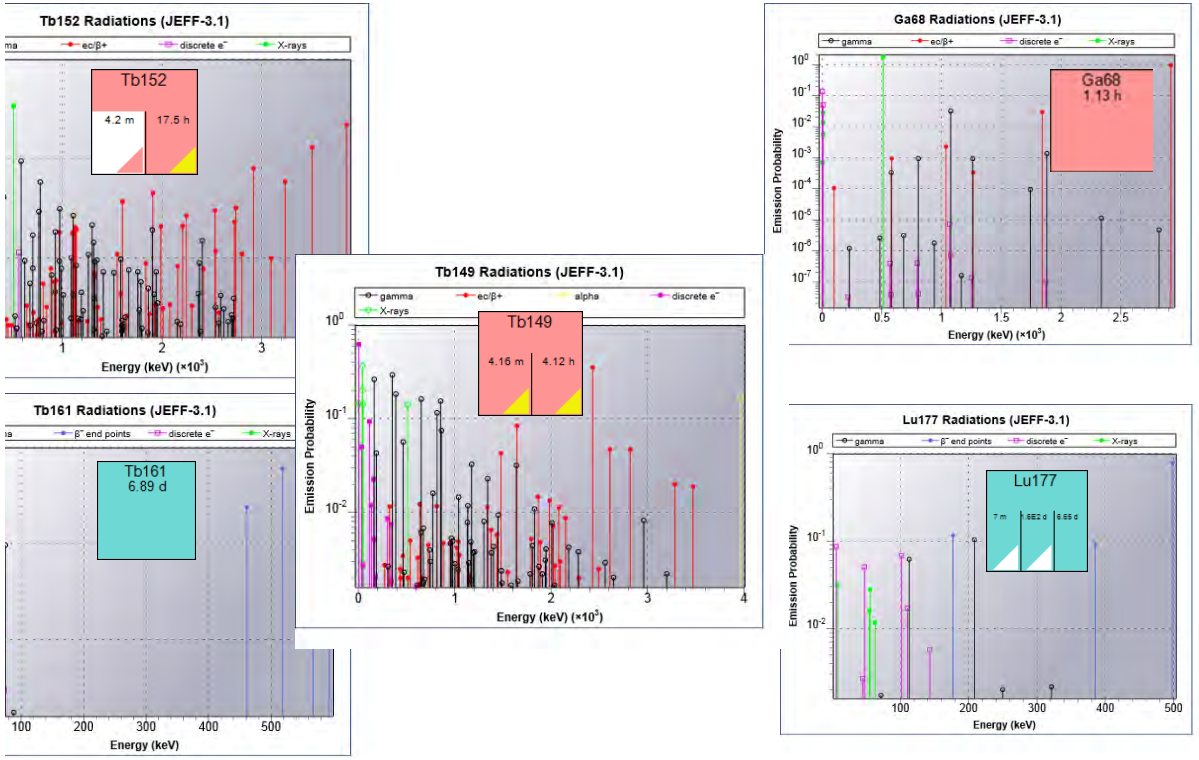
Centre hospitalier universitaire vaudois

HUG Hôpitaux Universitaires de Genève

ISREC Institut Suisse de Recherche Expérimentale sur le Cancer

EN STI

Overview of radioisotopes



Radiation:

- α
- β^+
- β^-
- γ

60 YEARS/ANS CERN

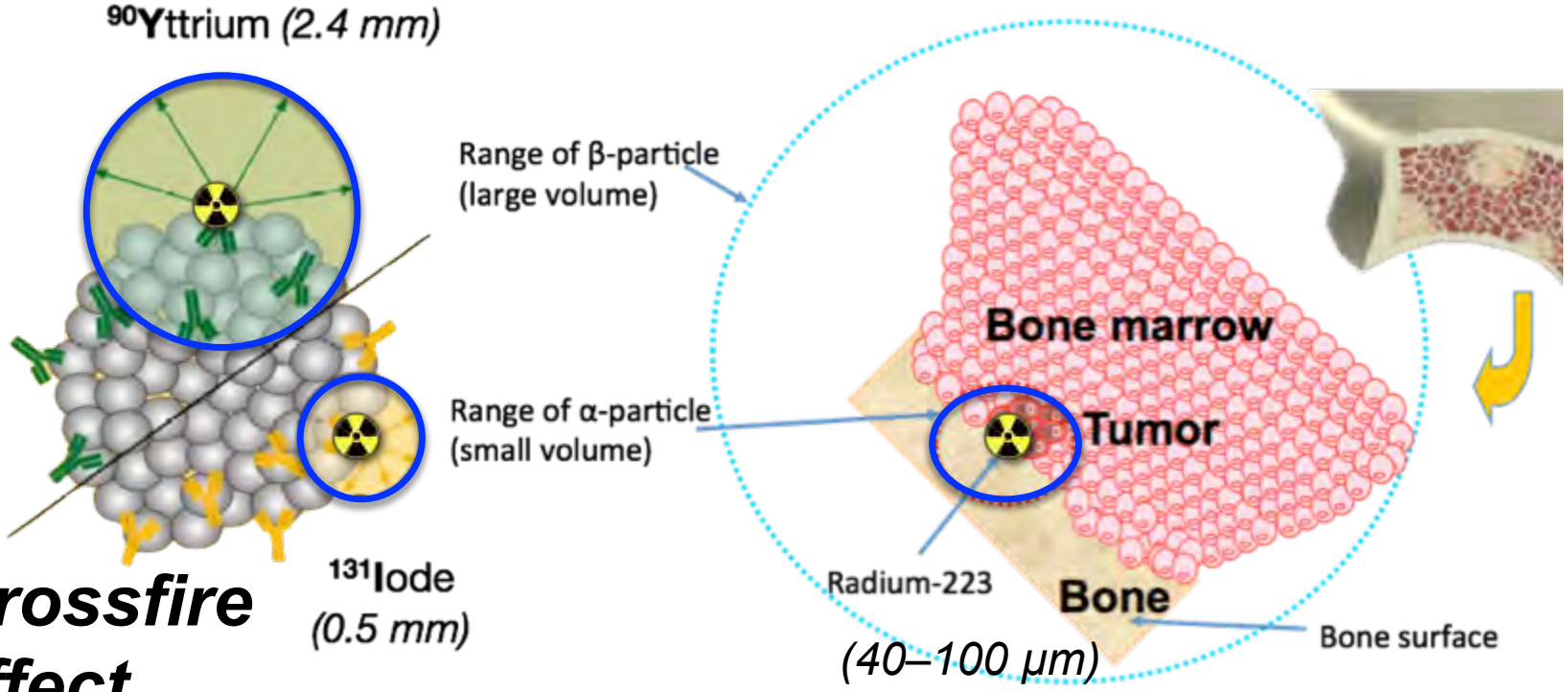
Medicis

Buchegger, Stora et al., ICTR-PHE 2014

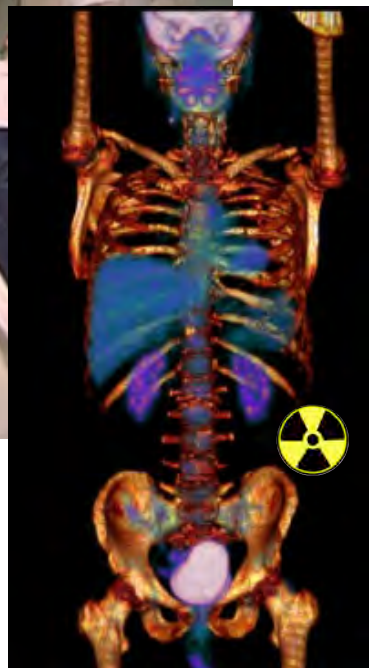
CHUV

2. Therapy with radisotopes (theranostics) – which scale?

β^- α



Translational hybrid imaging



New instrumentation

ENDO TOFPET US

Endoscopic TOFPET & Ultrasound