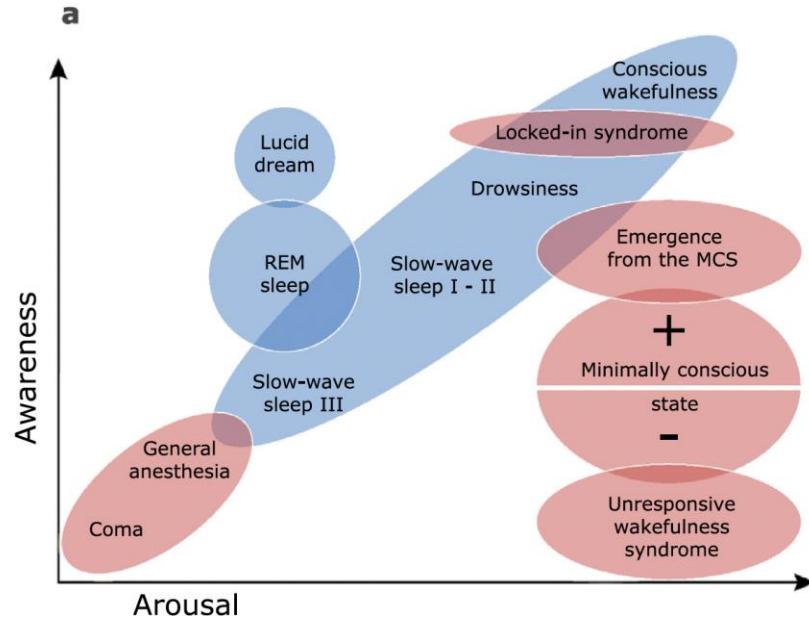


FDG-Positron emission tomography Standardized uptake values (SUV) Clinical cases

CSG PET workshop

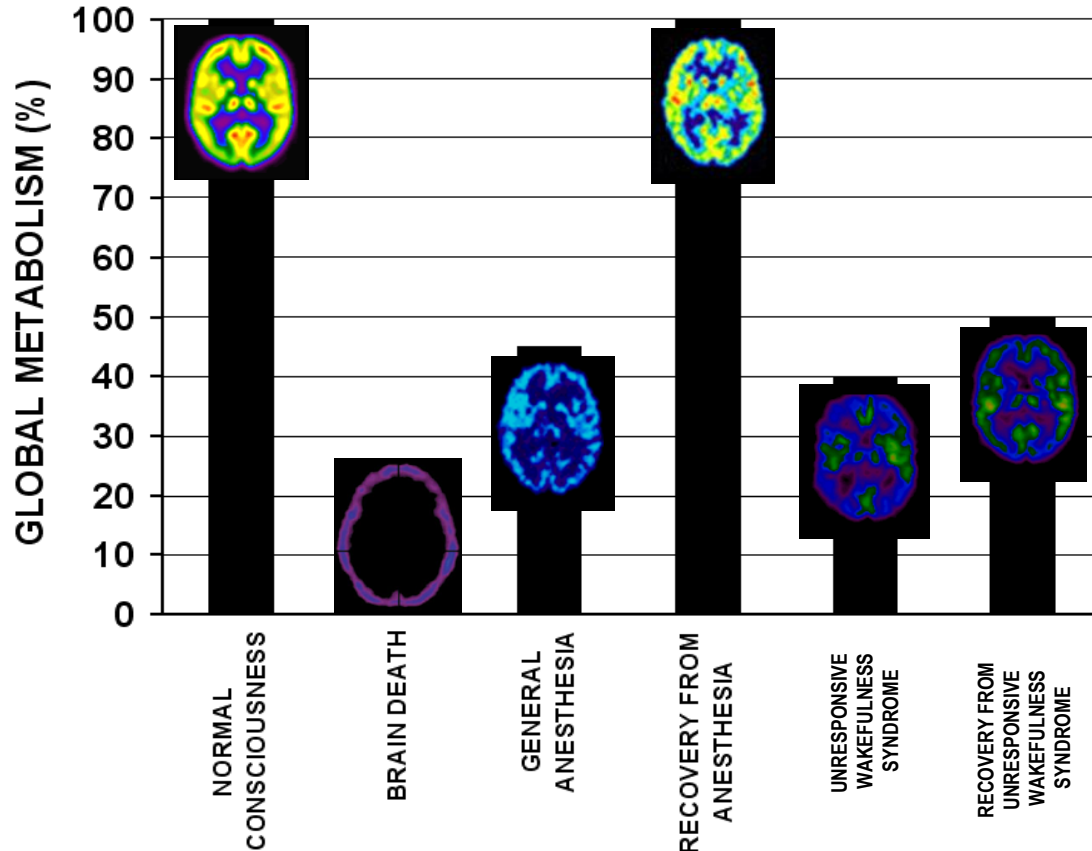
Jitka ANNEN, PhD
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Disorders of consciousness



Laureys et al, *TICS*, 2005

Global brain metabolism



Consciousness depends on network function, can be evaluated with SPM maps

But:

At global level, the difference is marginal

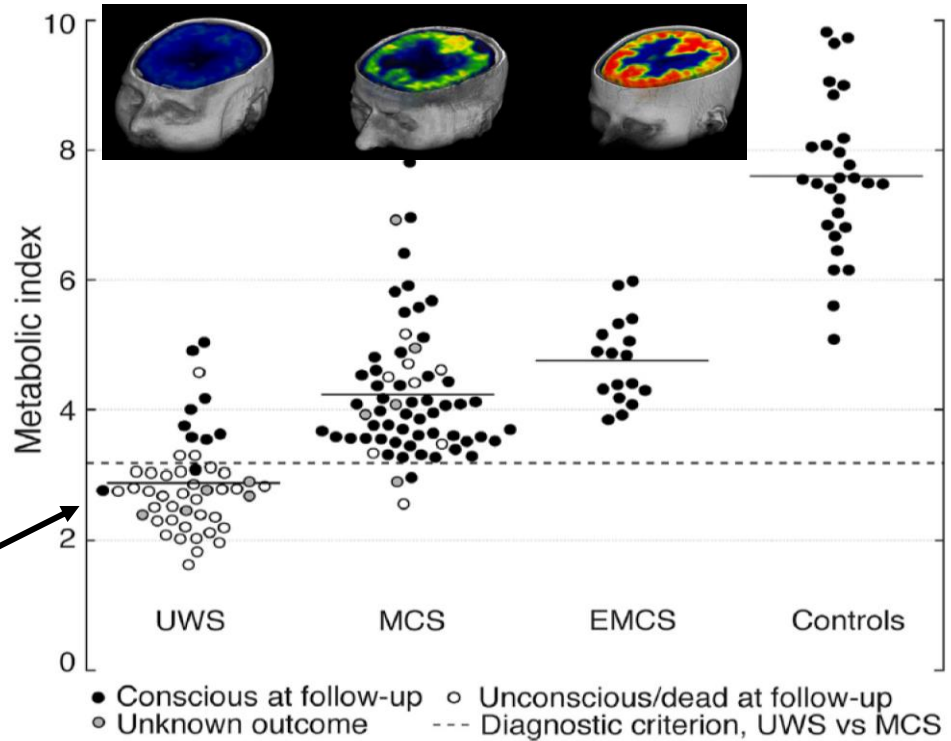
→ Identify cut-off glucose uptake level

Global brain metabolism: metabolic index of the best-preserved hemisphere

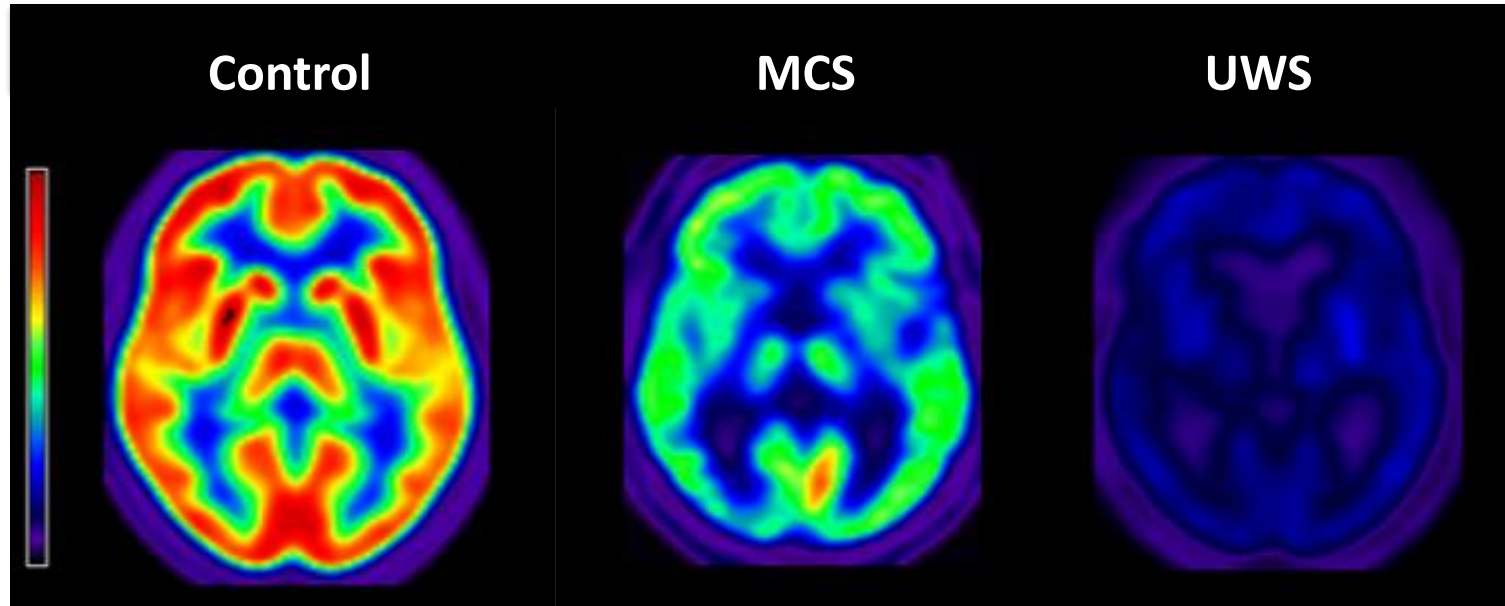


Minimal Energetic Requirement

42% of normal cortical activity represents the minimal energetic requirements for consciousness

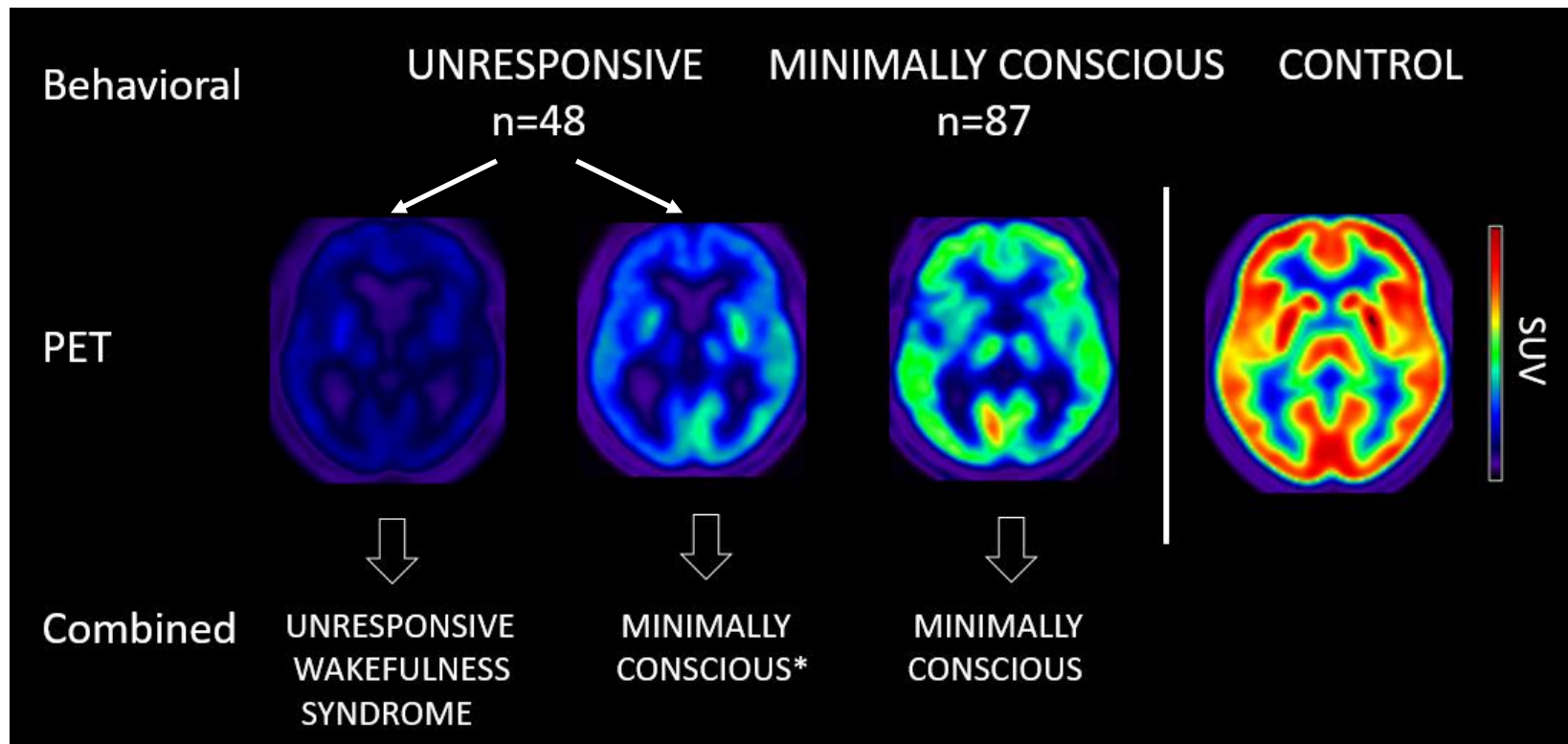


SUV – DOC



→ MRicroN – color NIH – scale 0 – 12

MCS* - covert awareness

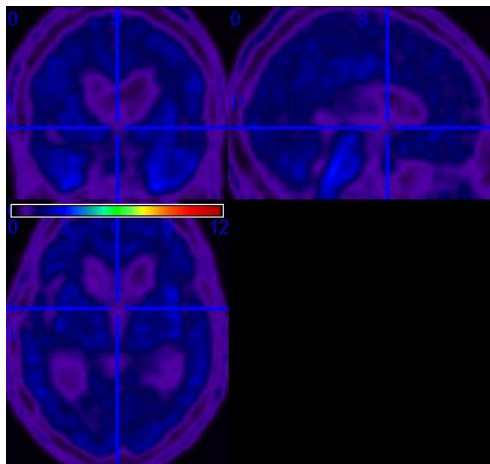


Visual inspection of SUV in the frontoparietal network

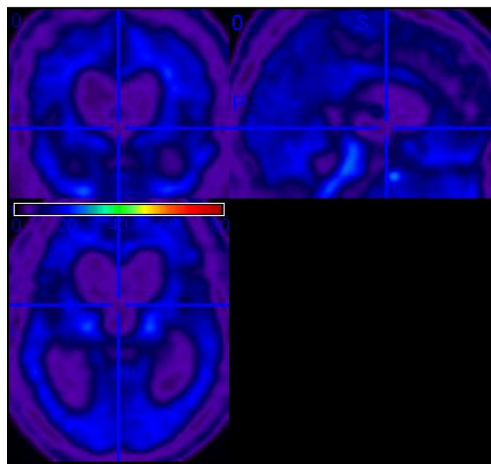
SUV - UWS



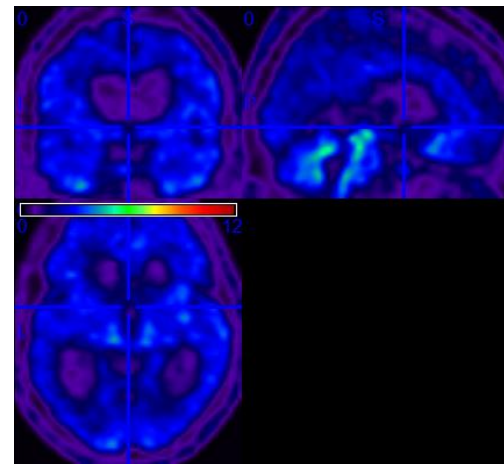
46 yo woman
5 months post anoxia
CRS-R: UWS (6)
Pres: 22%
Outcome: death



30 yo man
24 months post anoxia
CRS-R: UWS (6)
Pres: 27%
Outcome: UWS



65 yo man
4 months post anoxia
CRS-R: UWS (6)
Pres: 32%
Outcome: Death



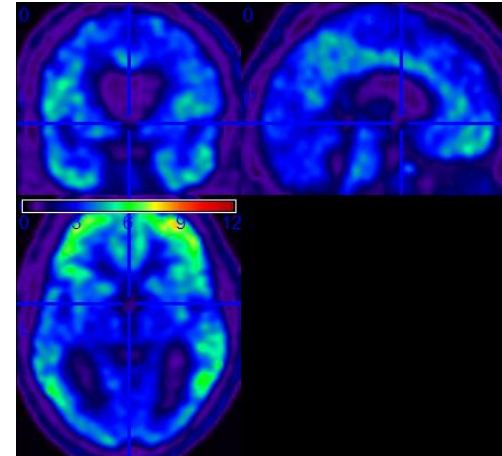
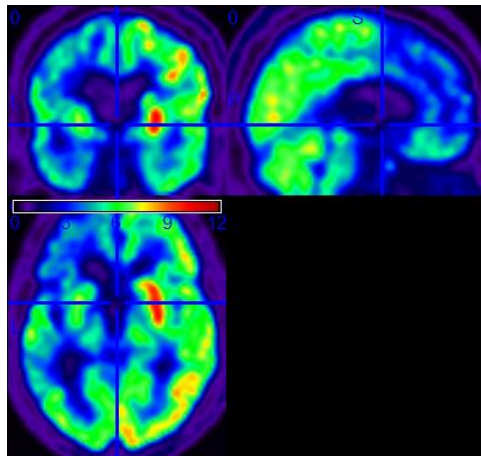
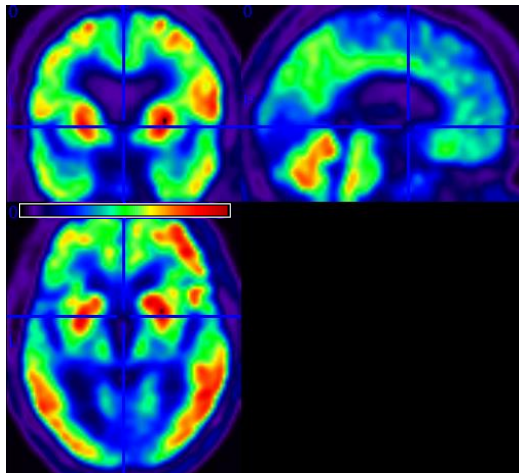
SUV - MCS



27 yo man
51 months post TBI
CRS-R: MCS (12)
Pres: 81%
Outcome: MCS

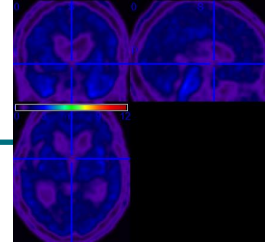
78 yo woman
69 months post TBI
CRS-R: MCS (16)
Pres: 72%
Outcome: MCS

38 yo man
7 months post anoxia
CRS-R: MCS (11)
Pres: 43%
Outcome: MCS



SUV – MCS*

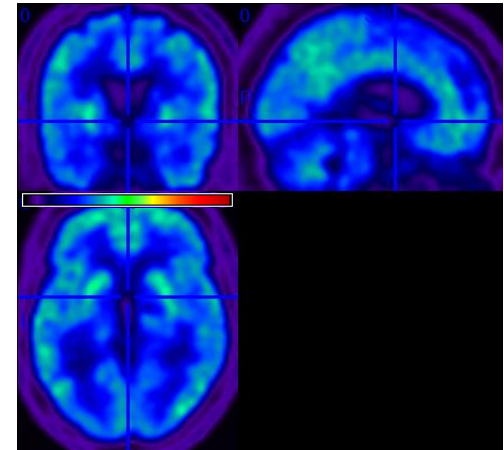
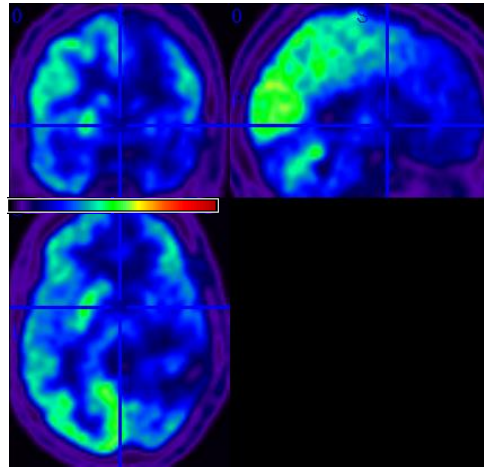
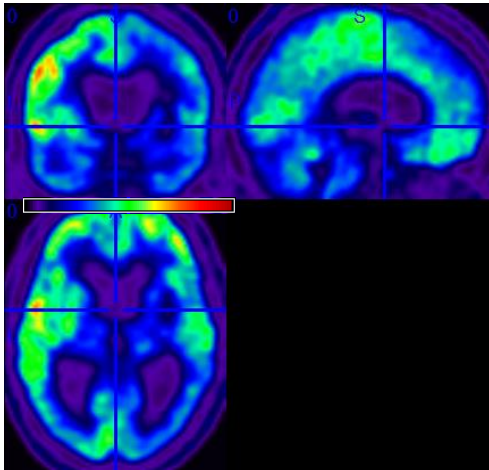
True UWS



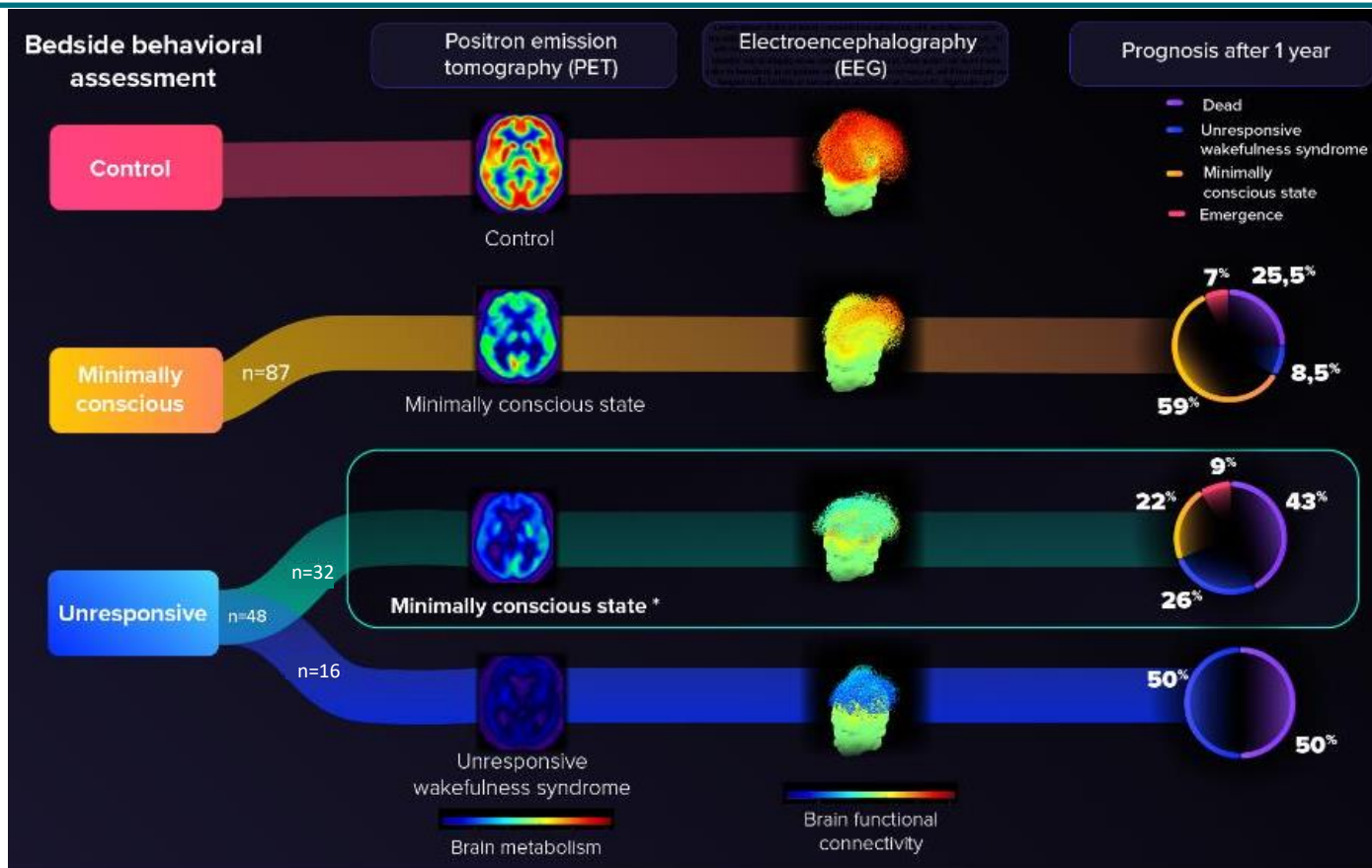
25 yo woman
7 months post CA/TBI
CRS-R: UWS (4)
Pres: 50%
Outcome: death

27 yo woman
4 months post stroke
CRS-R: UWS (6)
Pres: 43%
Outcome: MCS

54 yo man
1.5 months post meningitis
CRS-R: UWS (5)
Pres: 52%
Outcome: Death



Diagnostic tool





Thank you for your attention.

Special thanks to Aurore Thibaut for help in
preparing these cases!

Questions?

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