Automating Analyses: Coffee-Break Script for Quick Analysis in Disorders of Consciousness

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1. Automatically **set origin** close to the anterior comisure
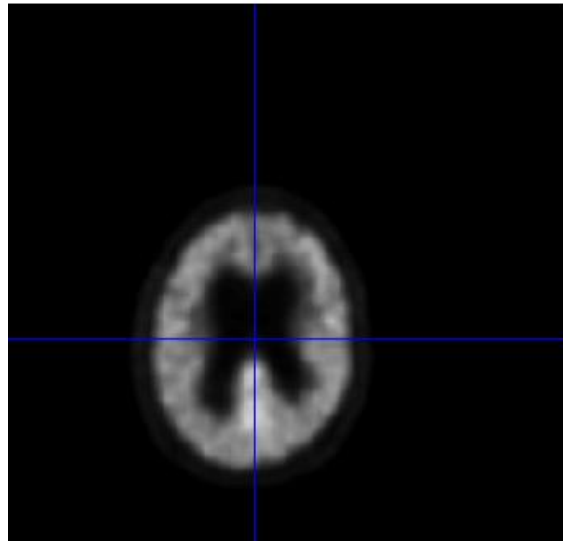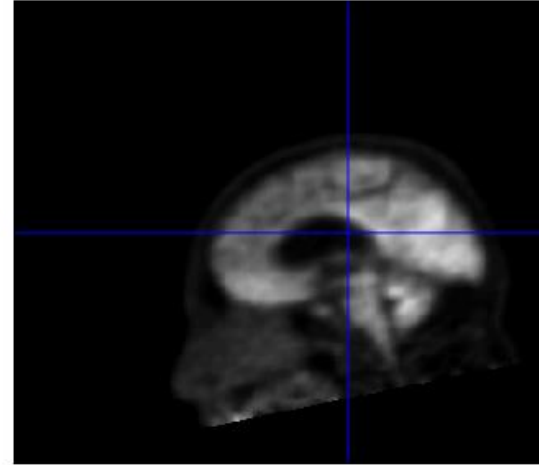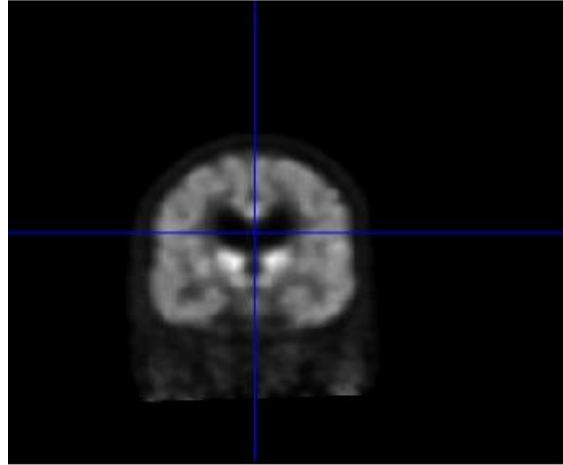
Structure - What is the Script doing? (2)

2. **Coregister** and **Normalize** the 3D input image with a 3D template image

3. **Smoothing** the image with a gaussian filter

4. **Statistical comparison** of the smoothed image with the healthy controls
   - Obtain relatively hypometabolic and preserved areas with statistical significance level of 0.05

5. Create an **Excel lists** for displaying hypobolic and preserved regions

6. Calculate **normalized SUV-image** (Standardized uptake value)

7. Calculate and save an overview of **brain slices** with relatively preserved and hypometabolic regions.

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Requirements

- **MATLAB >R2019a**

- **SPM software package** from www.fil.ion.ucl.ac.uk/spm

- Add the SPM path to your MATLAB paths

- Script **COFFEE_BREAK_FDGPET** and the **Healthy controls / Image template**

Run the script and enjoy your coffee break ☺

Outlook

Future plans:

- Automatically create clinical report including all results (excluding anatomial report)

- Set¨pipeline for healthy controls pre-processing

- Set pipeline for alternative quantification metrics (e.g. metabolic index)

- Set pipeline for analysis of structural and functional MRI images

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Thank you for your attention!

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