

## Accepted Manuscript

Meyer's loop tractography for image-guided surgery depends on imaging protocol and hardware

Maxime Chamberland, Chantal M.W. Tax, Derek K. Jones



PII: S2213-1582(18)30262-6  
DOI: doi:[10.1016/j.nicl.2018.08.021](https://doi.org/10.1016/j.nicl.2018.08.021)  
Reference: YNICL 1514  
To appear in: *NeuroImage: Clinical*  
Received date: 14 February 2018  
Revised date: 31 July 2018  
Accepted date: 10 August 2018

Please cite this article as: Maxime Chamberland, Chantal M.W. Tax, Derek K. Jones , Meyer's loop tractography for image-guided surgery depends on imaging protocol and hardware. Ynicl (2018), doi:[10.1016/j.nicl.2018.08.021](https://doi.org/10.1016/j.nicl.2018.08.021)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Meyer's loop tractography for image-guided surgery depends on imaging protocol and hardware

Maxime Chamberland<sup>1,\*</sup>, Chantal M. W. Tax<sup>1</sup>, Derek K. Jones<sup>1,2</sup>

<sup>1</sup>Cardiff University Brain Research Imaging Centre (CUBRIC), School of Psychology, Cardiff University, Cardiff, United Kingdom

<sup>2</sup>School of Psychology, Faculty of Health Sciences, Australian Catholic University, Victoria, Australia.

\*Correspondence to:

Maxime Chamberland

Cardiff University Brain Research Imaging Centre (CUBRIC)

School of Psychology, Cardiff University

Maindy Road, Cardiff CF24 4HQ

Tel: +44(0)29 2087 0365

Email address: chamberlandm@cardiff.ac.uk

Abstract word count: 250

## ABSTRACT

**Introduction:** Surgical resection is an effective treatment for temporal lobe epilepsy but can result in visual field defects. This could be minimized if surgeons knew the exact location of the anterior part of the optic radiation (OR), the Meyer's loop. To this end, there is increasing prevalence of image-guided surgery using diffusion MRI tractography. Despite considerable effort in developing analysis methods, a wide discrepancy in Meyer's loop reconstructions is observed in the literature. Moreover, the impact of differences in image acquisition on Meyer's loop tractography remains unclear. Here, while employing the same state-of-the-art analysis protocol, we explored the extent to which variance in data acquisition leads to variance in OR reconstruction.

**Methods:** Diffusion MRI data were acquired for the same thirteen healthy subjects using standard and state-of-the-art protocols on three scanners with different maximum gradient amplitudes (MGA): Siemens Connectom (MGA=300 mT/m); Siemens Prisma (MGA=80 mT/m)

Download English Version:

<https://daneshyari.com/en/article/9990926>

Download Persian Version:

<https://daneshyari.com/article/9990926>

[Daneshyari.com](https://daneshyari.com)