

VIRTUAL CME COURSE

**Informing Neurosurgical
Decisions with
Connectomics**

**Software
set-up guide**

Introduction

Throughout this course, we will be making use of **cloud-based connectomic software** (*Quicktome*™ by *Omniscient (o8t)*) to assist with visualization of neuroanatomy and brain networks.

This short guide will help you log in prior to the event and help familiarize you with the software.

This is essential to ensure that you are focusing on educational concepts during the day, and not technical troubleshooting.

By now you would have been contacted by a member of the Omniscient Team who will help you with any problems that you may encounter.

If you would like to reach out to me directly, please email me at sughruevs@gmail.com.

Looking forward to seeing you there!

- Michael Sughrue, MD



Where to find everything

Important links and further reference material can be found in the following webpage:

academy.o8t.com/webinar/ismins2021

This includes:

- This guide
- The link to log into the software on the day
- The lab guide that will be used during the course
- The course recording (after the event)



The screenshot shows the homepage for the 'Omniscient Neurotechnology Workshop'. The header features a colorful brain scan image and the title 'Omniscient Neurotechnology Workshop'. Below the header, there's a 'Share this course' section with social media icons. The main content area is divided into two columns. The left column contains the title 'Informing neurosurgical dissections with connectomics', the date 'September 12th, 2021', the time '8AM - 2PM Western Indonesia Time', a paragraph about the field of connectomics, a paragraph about the course content, a paragraph about the conclusion, the host information 'Hosted by the ISMINS and Omniscient Neurotechnology with Michael Sughrue MD', and a 'Highlights' section with four bullet points. The right column contains the title 'Important links', a 'Log into Quicktome' button, two buttons for 'Quick start guide' and 'Lecture notes & Handouts', and a 'Learning objectives' section with three numbered points.

Omniscient Neurotechnology Workshop

Share this course

Informing neurosurgical dissections with connectomics

September 12th, 2021

8AM - 2PM Western Indonesia Time

The field of connectomics has vastly updated our understanding of neurological anatomy especially in identifying critical brain network structures that facilitate neurological processes. Such information is crucial for neurosurgeons to inform surgical decision-making.

This course explores surgical disconnections and trajectories, and how to practically use connectomic information to inform surgical planning. Teaching is conducted through hands-on application of connectomic software and detailed lab exercises.

It will conclude with a lecture on neurorehabilitation.

Hosted by the ISMINS and Omniscient Neurotechnology with Michael Sughrue MD

Highlights

- Review updates to neuroanatomy as informed by connectomics
- Explore lesions in eight regions of the brain and trajectories and approaches to perform disconnections
- Utilize connectomic software to improve neurosurgical planning
- Explore transformational updates to neurorehabilitation informed by connectomics

Important links

Log into Quicktome

Quick start guide

Lecture notes & Handouts

Learning objectives

1. The learner will be familiarized with what "connectomic" information is in the context of neurosurgery and gain an understanding of how it can be used to inform surgical decision-making.
2. The learner will be able to name major networks involved in common dissections and assess the impact of manipulating them through surgery
3. The learner will gain experience with use information of the location and integrity of brain networks around pathology to plan trajectories that reduce potential deficit

1. Logging in for the first time

IMPORTANT:

- Ensure you are logging in from a **Google Chrome browser***

After receiving your welcome email, you will be prompted to log in with your **email address, temporary password, temporary PIN, and facility name**

Follow the link in the email or click here:

<https://quicktome.au.o8t.com/login>

The screenshot shows the o8t Quicktome login interface. It features a 'Sign in' form with the following fields and annotations:

- Facility:** A dropdown menu with the annotation "Facility is 'ismins'".
- Username:** A text input field with the annotation "The email you used to register".
- Password:** A text input field with the annotation "Temporary password".
- Forgot password / PIN?:** A link with the annotation "Click if password or PIN expire".
- Sign in:** A purple button.

The background of the login page shows a brain scan image with the text "(neurosurgery)o8t" overlaid.

* Download Chrome at:
https://www.google.com.au/intl/en_au/chrome/

2. Selecting case exercises

Throughout this course, we will be navigating cases that have been pre-loaded onto the Quicktome environment that you have logged into.

To find these cases, you will need to search for cases by their “**Patient IDs**”:

The screenshot displays the Quicktome web application interface. At the top, the 'Quicktome' logo is on the left, and navigation links 'Home', 'Settings', 'Help', and 'Log out' are on the right. A search bar contains the text 'medpar'. To the right of the search bar are links for 'Reset all' and 'Filters', and a prominent blue 'Search' button. Below the search bar, the results section is titled 'Found 1 patient(s)'. It contains a table with three columns: 'Patient name', 'Patient ID', and 'Date of birth'. The first row shows 'Medial Parietal', 'MedPar', and '1971-07-26'. To the right of this table is a section titled 'History for Medial Parietal' with a sub-header '1 studies'. It contains a table with three columns: 'Type', 'Study Date', and 'Status'. The first row shows 'MRI NR MP RAGE (Pre Op)', '2020-08-25', and 'In cloud'. A blue 'Launch' button is located to the right of the 'In cloud' status. Four blue callout boxes with arrows point to specific elements: '1. Type in Patient ID' points to the search bar; '2. Click "Search"' points to the 'Search' button; '3. Click on case' points to the 'Medial Parietal' patient name; and '4. Click "Launch"' points to the 'Launch' button.

1. Type in Patient ID

2. Click "Search"

3. Click on case

4. Click "Launch"

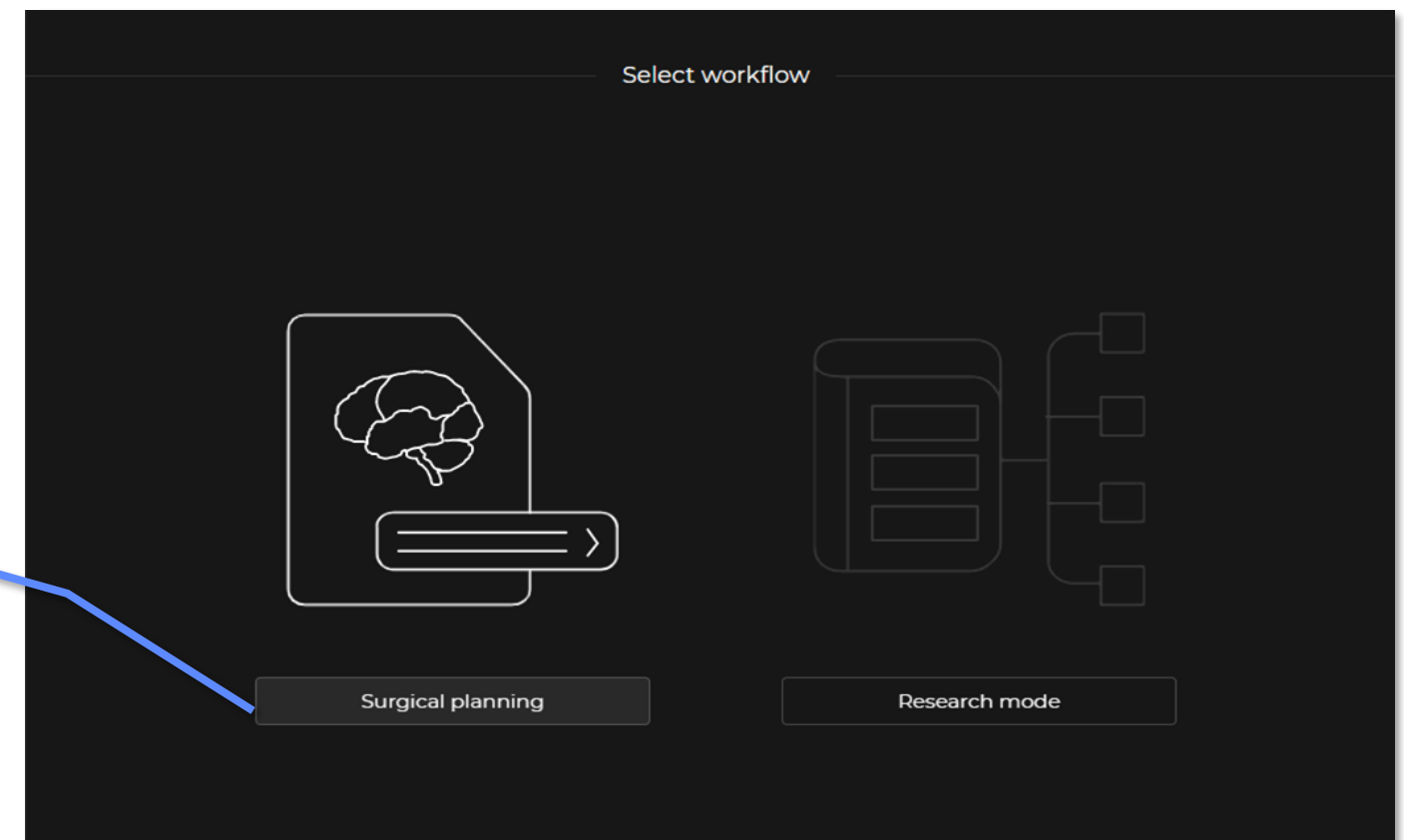
2. Selecting case exercises (cont')

In this course, we will explore eight cases each corresponding a major region of the brain.

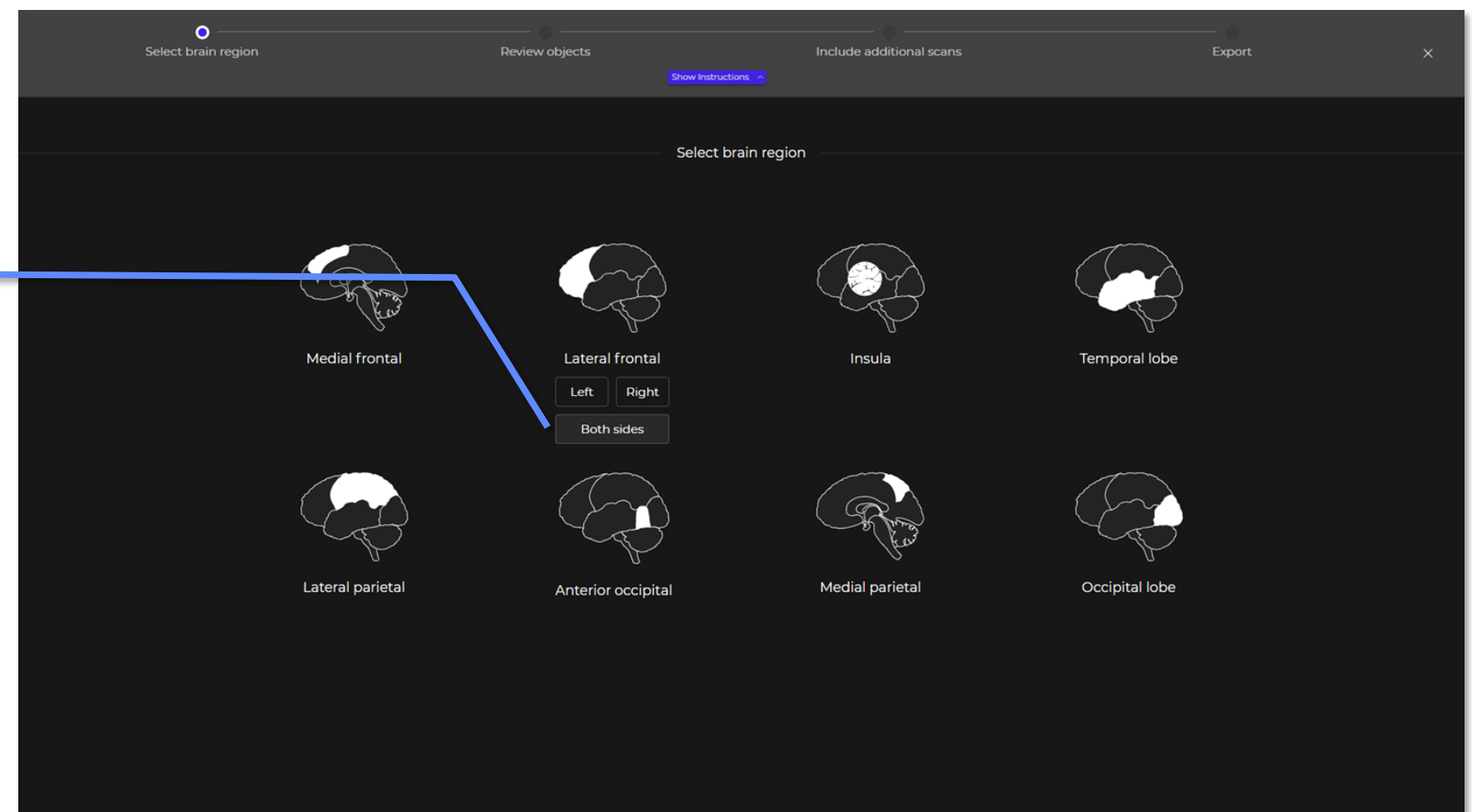
Exercise	Patient ID
Lateral Frontal	LatFront
Medial Frontal	MedFront
Temporal Lobe	TempLobe
Insula	Insula
Medial Parietal	MedPar
Anterior Occipital	AntOcc
Lateral Parietal	LatPar
Occipital Lobe	OccLob

3. Brain region selection

Click on “Surgical Planning”



Based on the exercise, hover over the brain region and then select the appropriate side

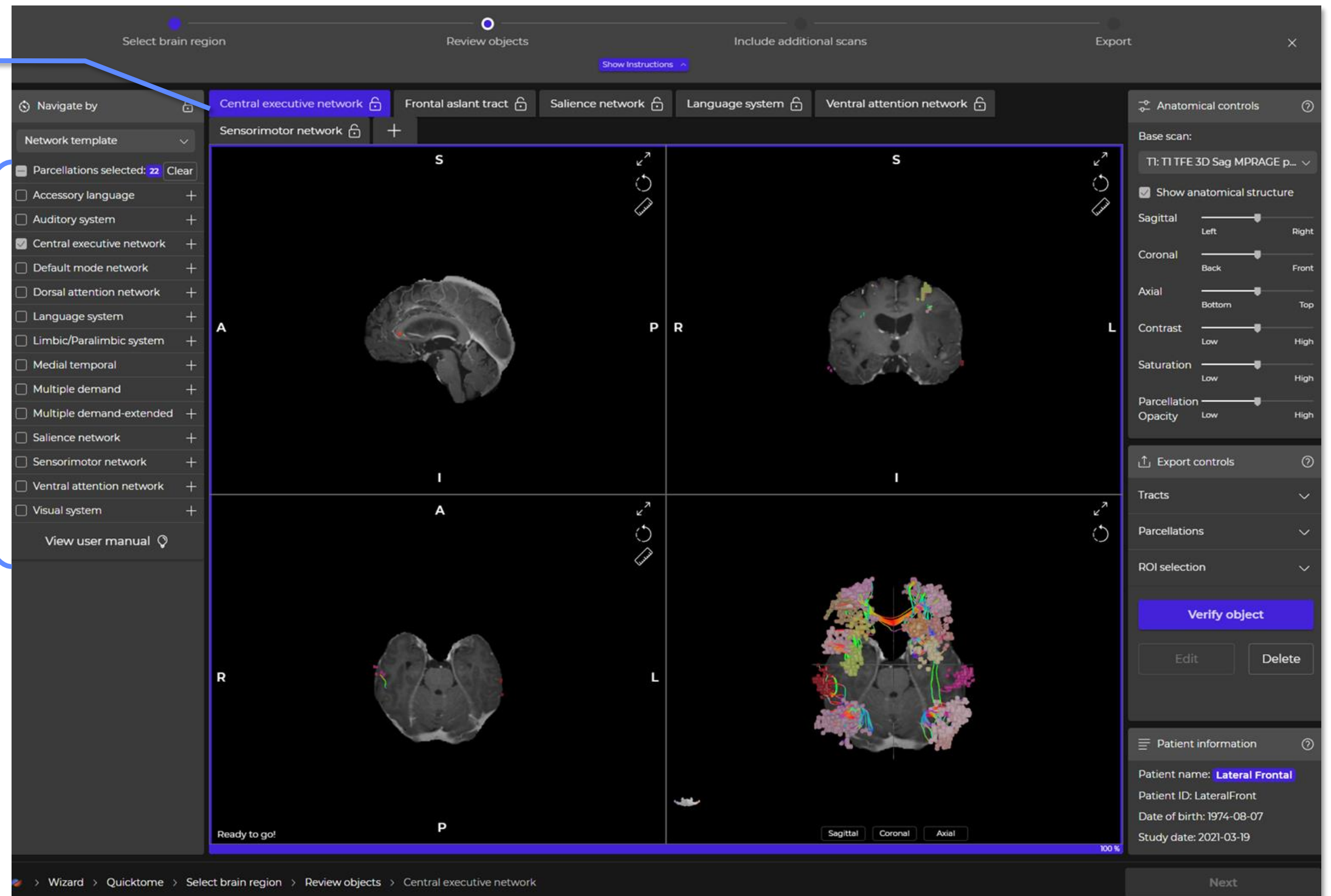


4. Navigating the viewer

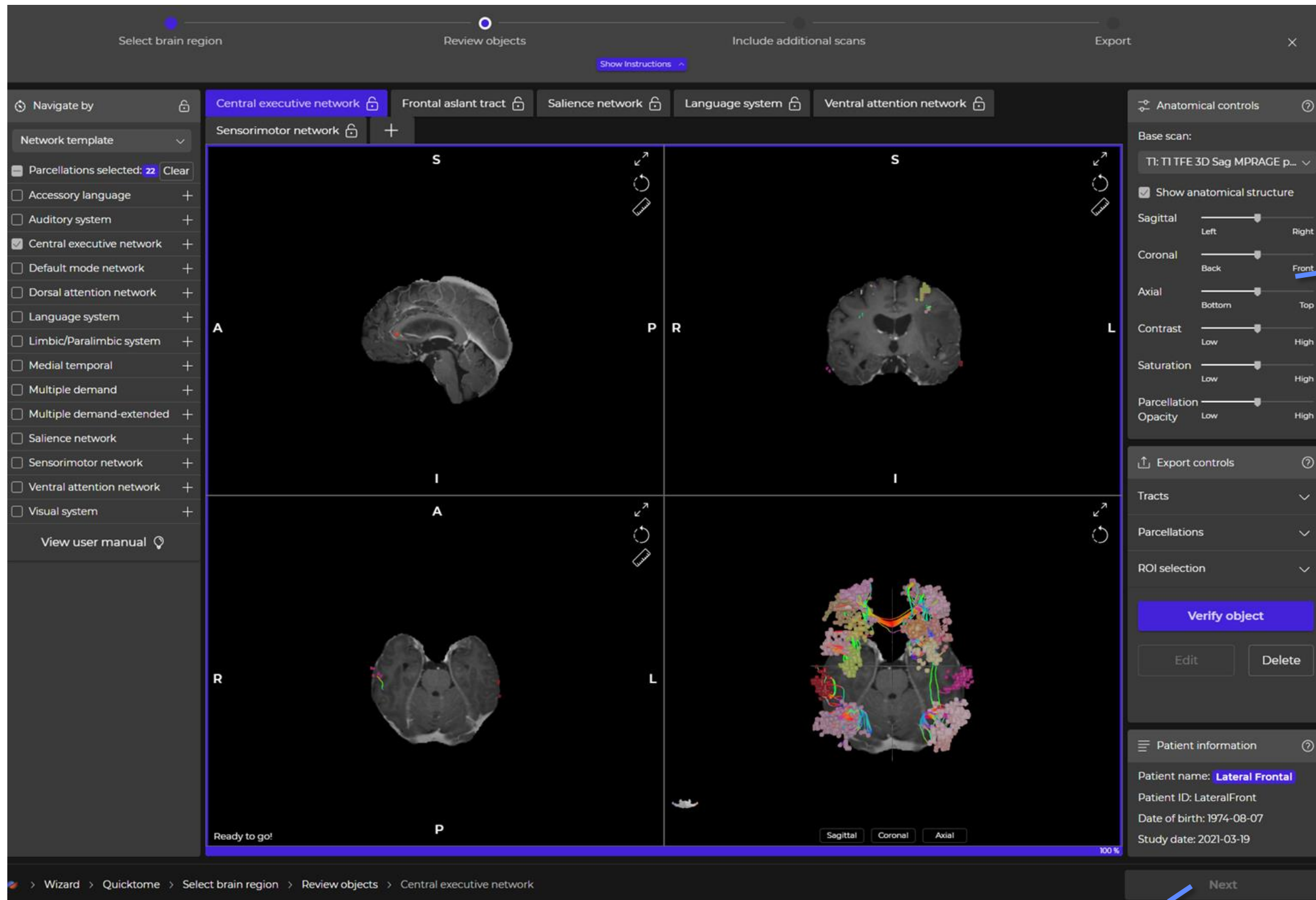
Based on your prior selection, objects of interest will pre-populate.

Each represents a workspace to focus on specific functional areas.

Adjust your selection of networks, tracts, and parcellations here



4. Navigating the viewer (cont')



Adjust your 2D slice view here

Adjust visualizations of tracts and parcellations here.

You do not need to **“Verify objects”** in this course

You do not need to click **“next”** in this course