

# Hyperfine AIR\_EC\_Capabilities

2022/08/01

System Name: NA\_DEV\_HYPR\_BrainInsight

## AI Algorithm Description: Brain Midline Shift

BrainInsight reports the midline shift by finding the slice that contains the most significant shift.

### DICOM IODs

- Comprehensive 3D Storage IOD
- MR Image IOD

The MR images contain axial images which have had an affine transform applied so that the midline shift results can be displayed on a 2D image slice.

There may be results for T1 or T2 images - or both.

### Result Primitives encoded

- TID 1500 Measurement Report
- TID 1410 Planar ROI Measurement and Qualitative Evaluations
- TID 300 Measurement

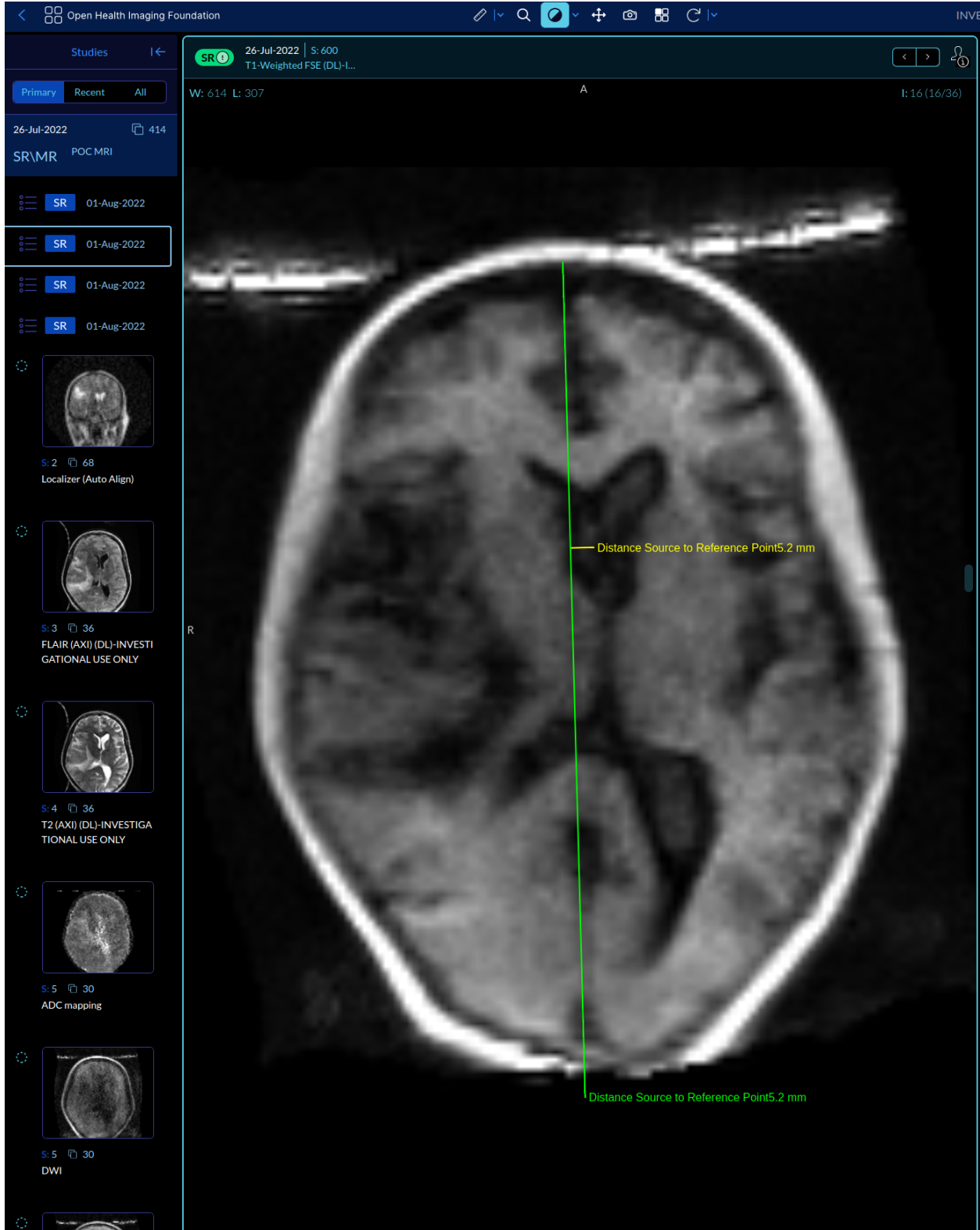
The TID 300 elements contain finding sites containing codes for SCT.Midline.

### Measurements

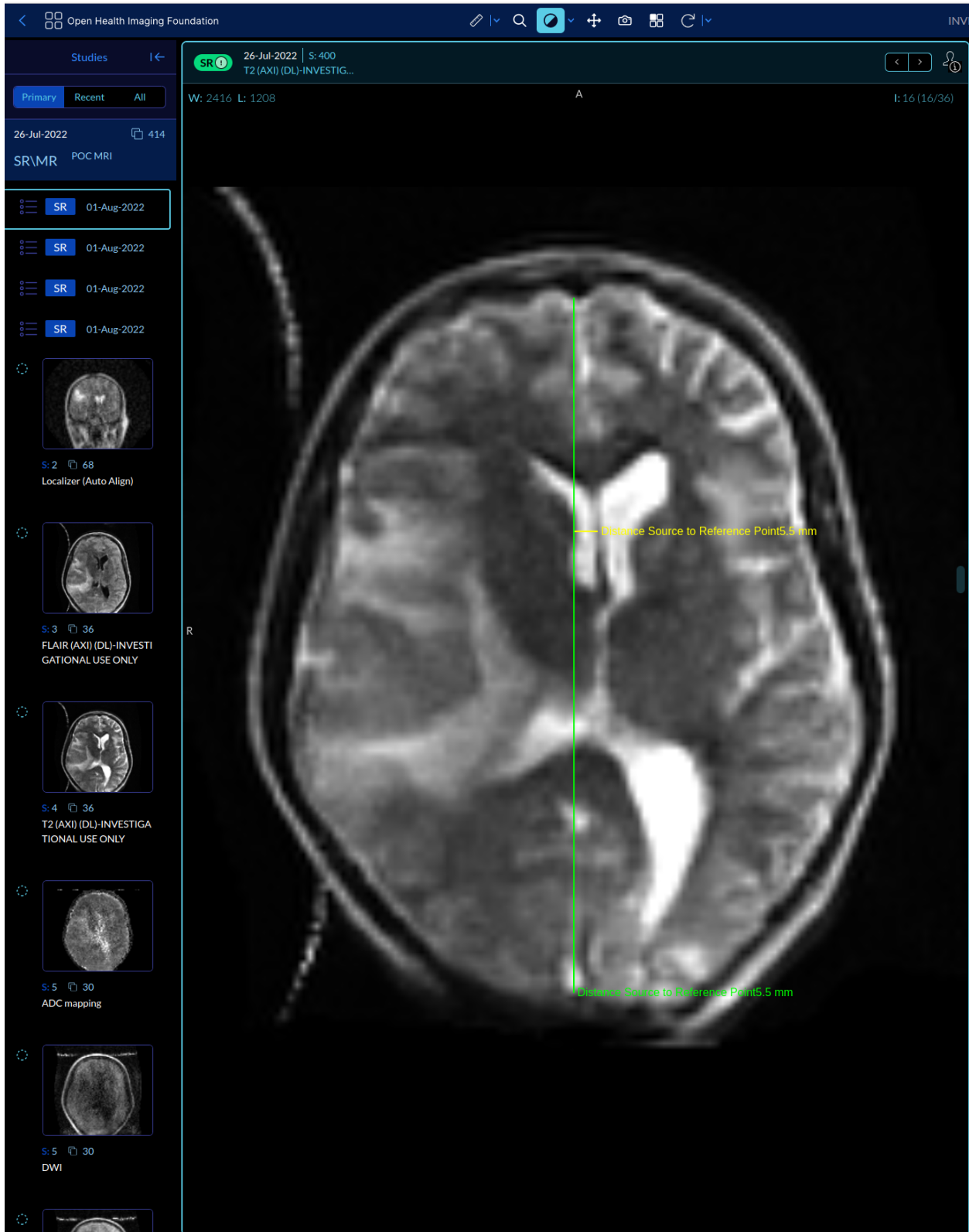
There are two ImageRegions: one for the line that defines the brain midline and a second perpendicular line that measures the midline shift. The measurement code is DCM.DistanceSourceToReferencePoint. The measurement value is the length of the perpendicular line in mm.

The ImageRegion values use SCOORD (2D) coordinates on the referenced slice.

T1 Midline Image



T2 Midline Image



## AI Algorithm Description: Ventricular Volume

BrainInsight uses axial scans to visualize the contours of the left and right lateral ventricles and their calculated volumes (in centimeters squared).

### DICOM IODs

- Comprehensive 3D Storage IOD

### Result Primitives encoded

TID 1500 Measurement Report

TID 1410 Planar ROI Measurement and Qualitative Evaluations

TID 300 Measurement

The TID 300 elements contain finding sites containing codes for SCT.BrainVentricleStructure with right and left laterality codes. The measurements are in  $\text{CM}^3$ .

The ImageRegion values use SCOORD (2D) coordinates on the referenced slice. There may be multiple ImageRegions on an image.

### Measurements

Each ImageRegion contains a reference to the global measurements of right and left ventricular regions.

Note that on the ventricular volume images below the two volume measurements do not have the {left, right} lateralities displayed. These are specified in the SR.

T1 Ventricular Volume



T2 Ventricular Volume

