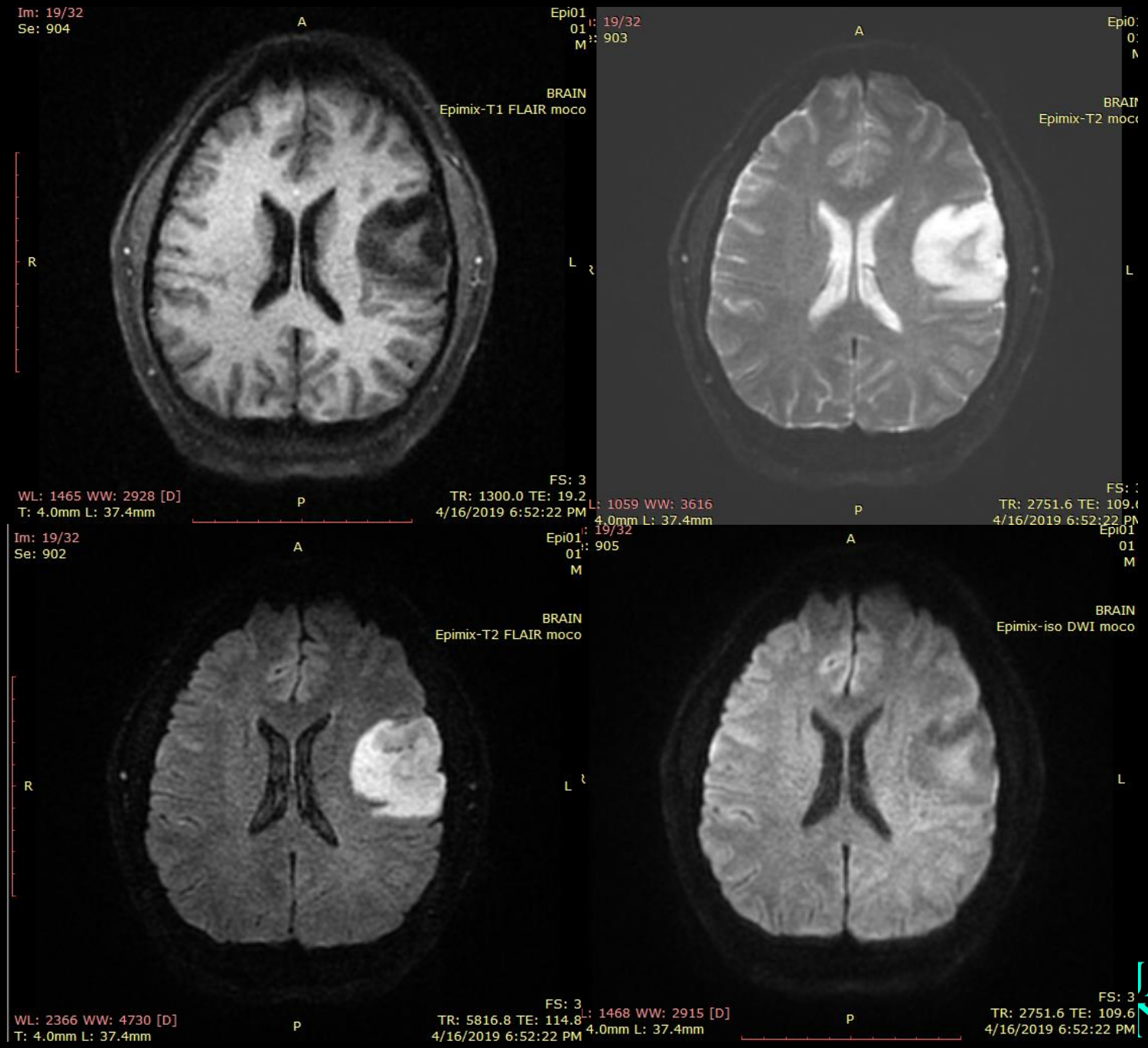
Initial Clinical Experiences with EPIMIX sequence in multiple brain pathologies

- Conventional MR requires a still patient with modest scan times and is of limited value in un-cooperative or sick patients
- A new multicontrast echo planar imaging sequence called EPIMIX has been described with a 72-75-second-long sequence providing a range of contrasts from T1 FLAIR, T2-weighted, T2-FLAIR, GRE T2*, Diffusion and ADC images.
- We share our experience in a variety of brain conditions, where we employed EPIMIX in addition to standard of care imaging.

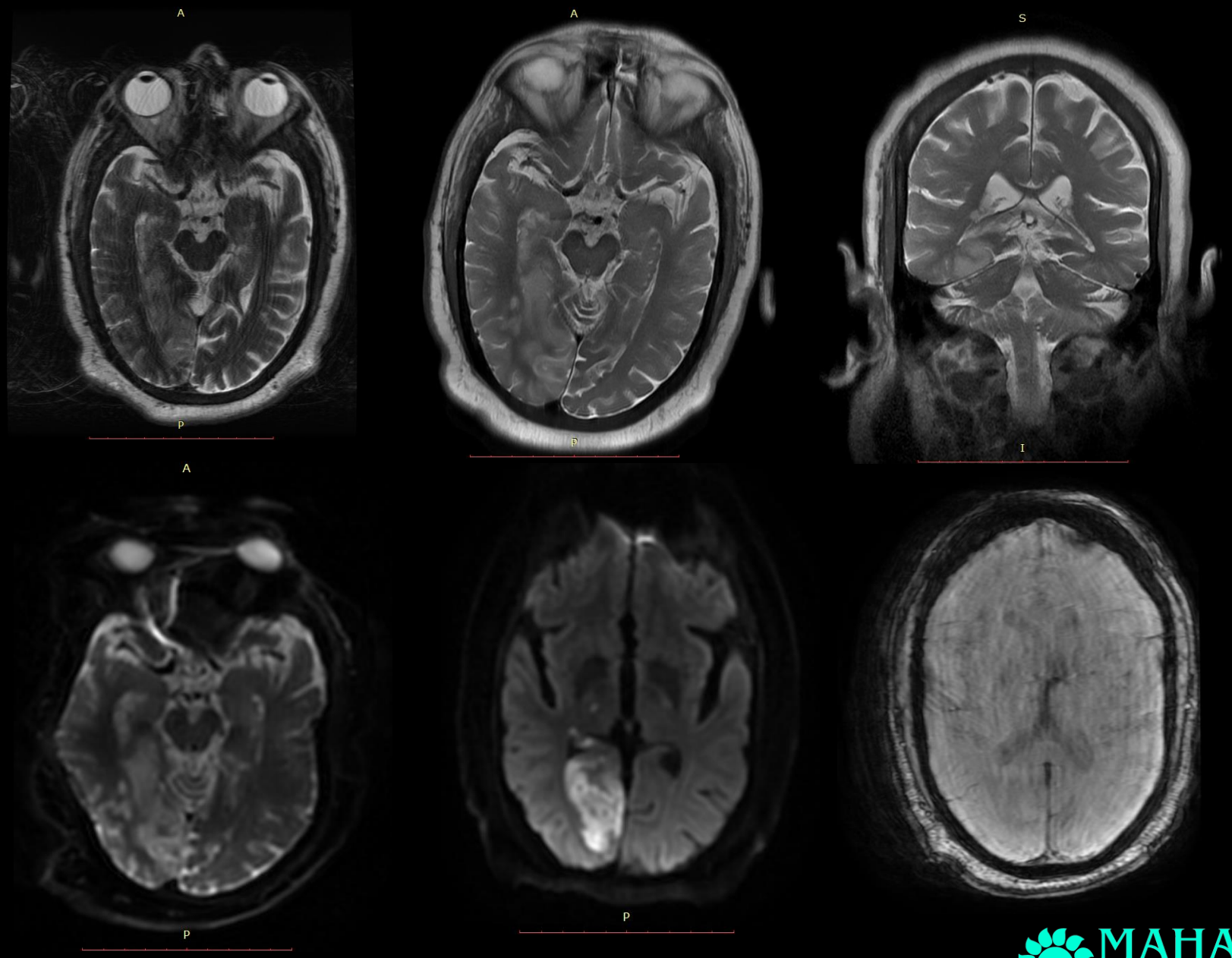
CARING

MAHAJAN IMAGING

Left frontal low-grade glioma appearances on EPIMIX sequences



EPIMIX sequences in a sick unstable patient evaluated for stroke



Acute right PCA territory infarct seen on EPIMIX DWI & T2W sequences

CARING

MAHAJAN IMAGING

Pros-

- This sequence runs out of the box, without any modifications necessary, with the capability to increase the numbers of slices.
- Inbuilt MOCO (motion correction) aids in improving the image quality in uncooperative patients.
- High contrast-to-noise ratio of the images makes pick-up of lesions better.

Cons-

- The sequence produces a loud sound for which adequate acoustic reduction aids like ear plugs and headphones need to be utilized and patients need to be warned in advance of this.
- Longer processing times are needed, ranging from 6-10 minutes after the scan.
- Lower signal to noise ratio leads to increased image grain and poorer visualization of interfaces between lesions and normal brain parenchyma.
- Inability to use this sequence in other anatomies with adequate resolution and with other coils is also a limitation.