T2 shine through

T2 shine-through refers to high signal on DWI images that is not due to restricted diffusion, but rather to high T2 signal which 'shines through' to the DWI image. T2 shine through occurs because of long T2 decay time in some normal tissue.

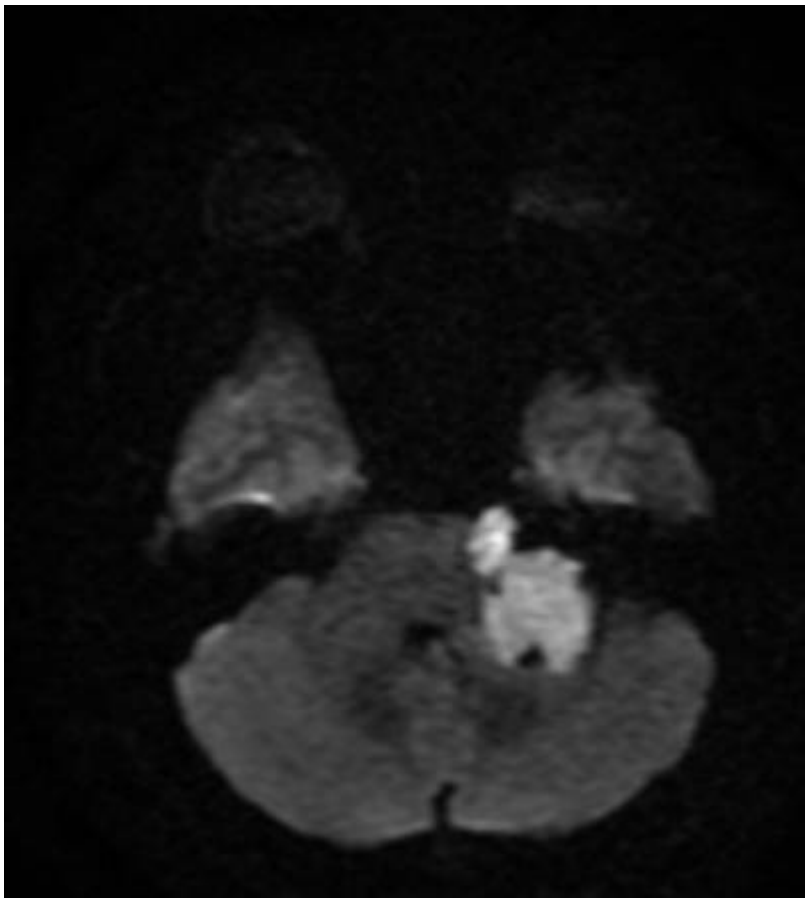
This is most often seen with subacute infarctions due to vasogenic oedema but can be seen in other pathologic abnormalities such as an epidermoid cyst.

To confirm true restricted diffusion one should always compare the DWI image to the ADC. In cases of true restricted diffusion, the region of increased DWI signal will demonstrate low signal on ADC.

ADC is a value that measures the effect of diffusion independent of the influence of T2 shine-through. ADC maps thus portray restricted diffusion, such as in ischemic injury, as hypointense lesions relative to normal brain.

In contrast, in cases of T2 shine-through, the ADC will be normal or high signal. Diffusion weighted magnetic resonance imaging

Useful for differentiation from arachnoid cysts due to increased signal (due to a combination of true restricted diffusion and T2 shine through) which is not seen with arachnoid cysts



Cerebellopontine angle epidermoid cyst on DWI MR imaging.