

MR2 – Cheat Sheet

Weighting	TR	TE
T1	Short	Short
T2	Long	Long
PD	Long	Short

T1 and T2 -> intrinsic properties of a substance which are independent of one another

T1 – the time it takes the net magnetization vector to return to B_0

T2—the time it takes to dephase transverse magnetization after the RF is applied

T2 = $T2^* \times$ rephasing pulse

TR—amount of time between RF pulses

TE—amount of time between the RF pulse and listening to the signal

Flip Angle –angle at which the RF pulse is delivered

Spin Echo—Traditional sequence: RF pulse (90°), 180° rephasing pulse, echo

Gradient Echo—RF pulse ($<90^\circ$), Gradient, echo

Substance	T1	T2
Simple fluid	Dark	Bright
Edema	Dark	Bright
Proteinaceous/hemorrhagic fluid	Bright	Dark
Hemorrhage	Bright	Dark
Fat	Bright	Bright
Fibrosis	Dark	Dark
Iron/Calcification/Other metals	Dark	Dark
Normal Adult Bone Marrow	Bright	Dark