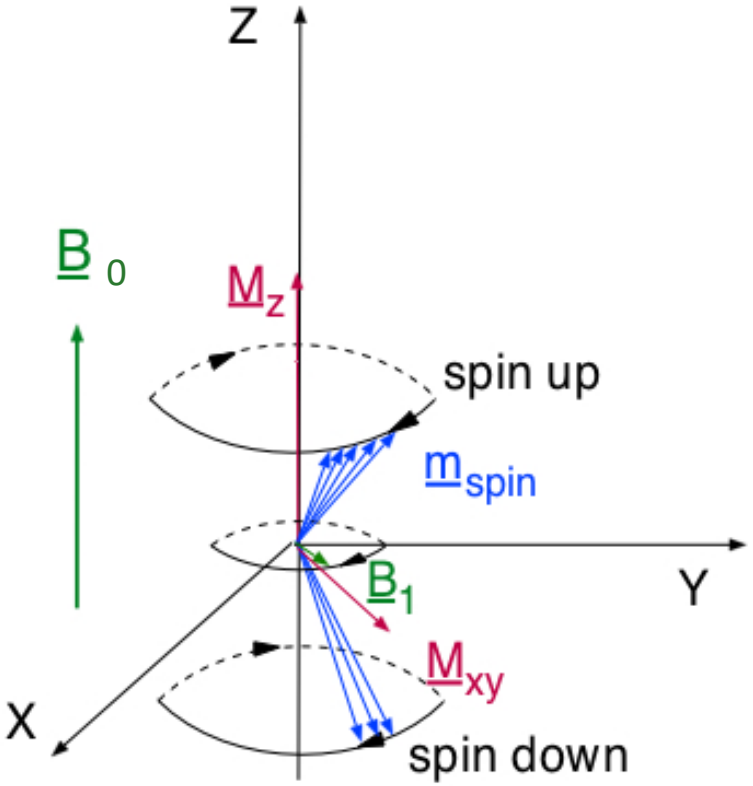
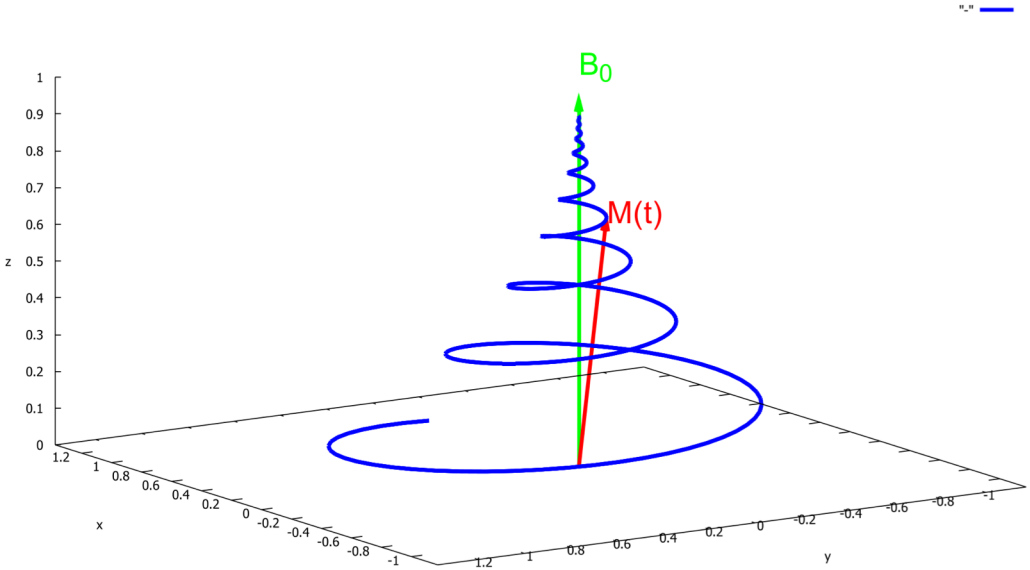
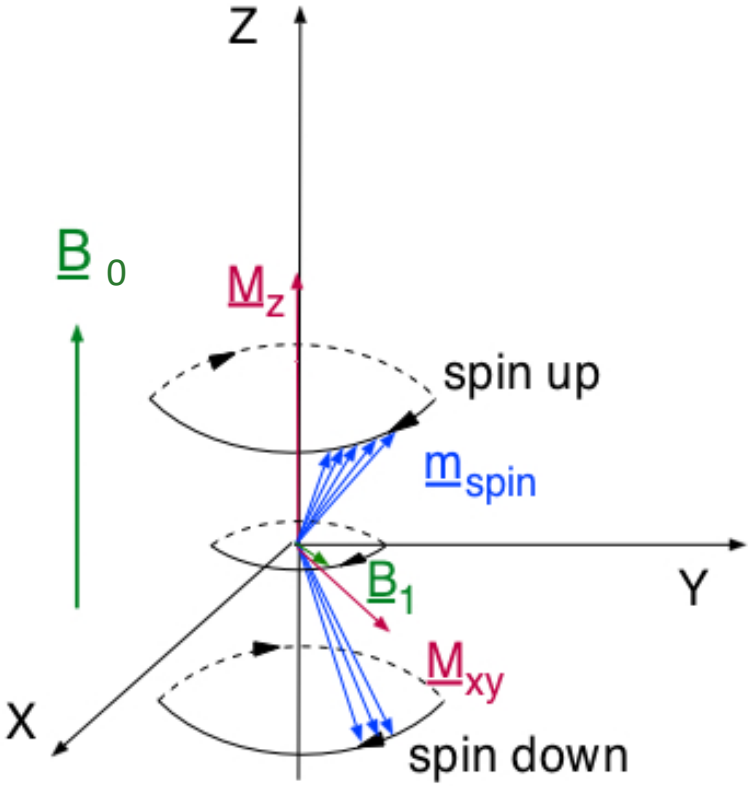
# Séquences IRM classiques

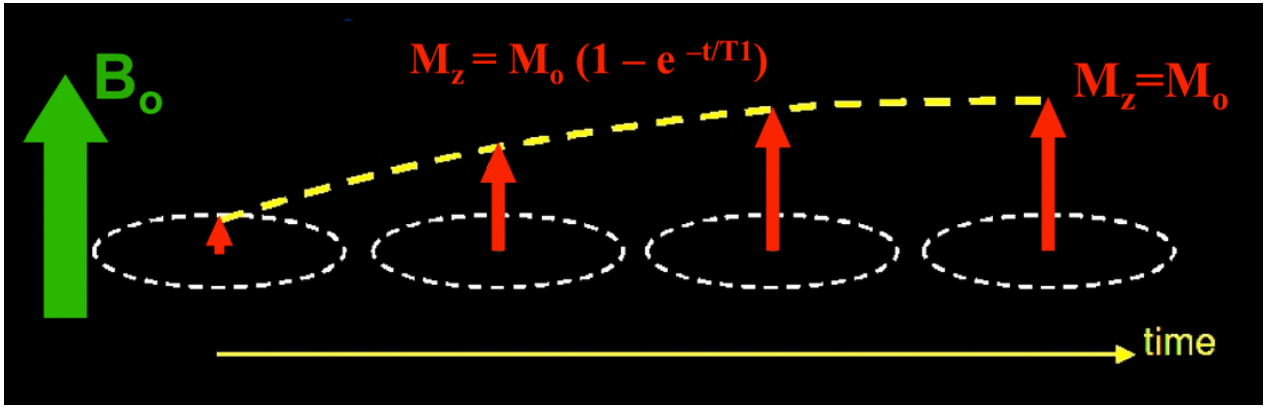
# Principe physique de l'IRM

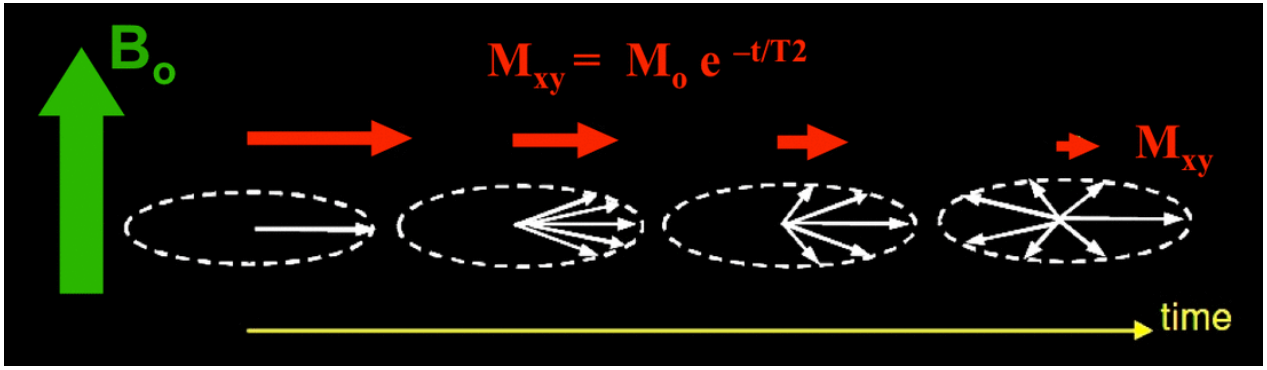


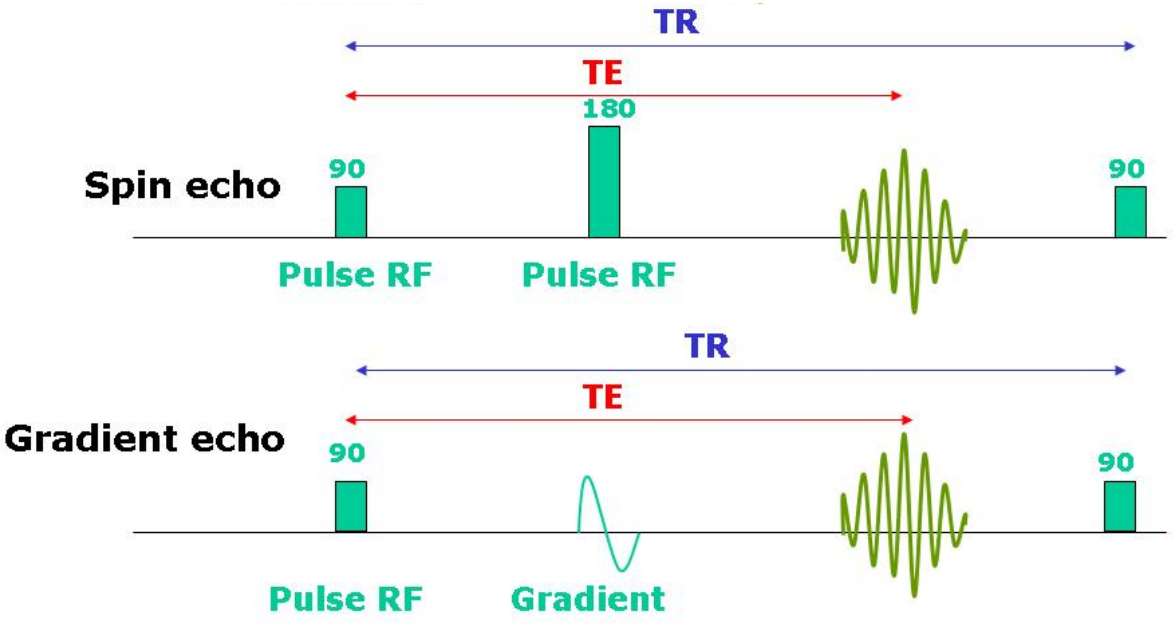
# Principe physique de l'IRM



# Principe des séquences d'acquisition en IRM

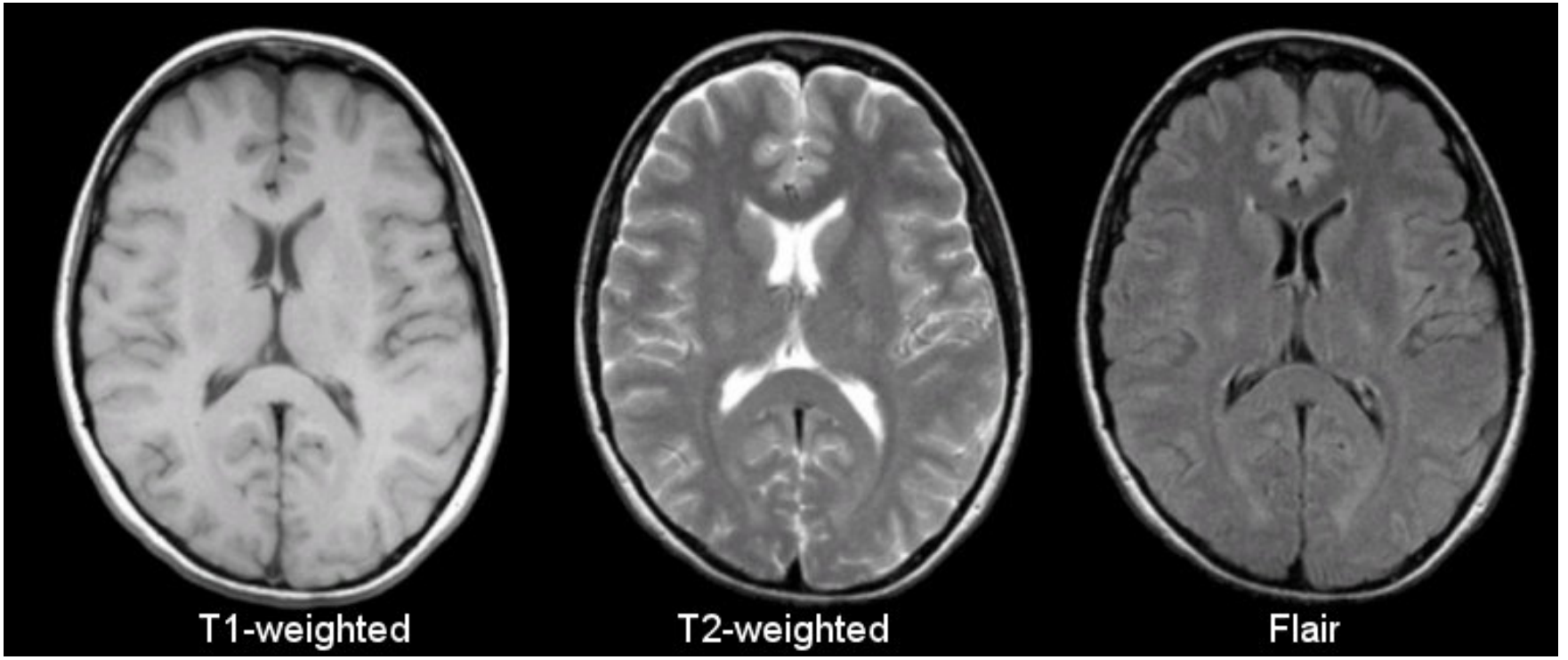


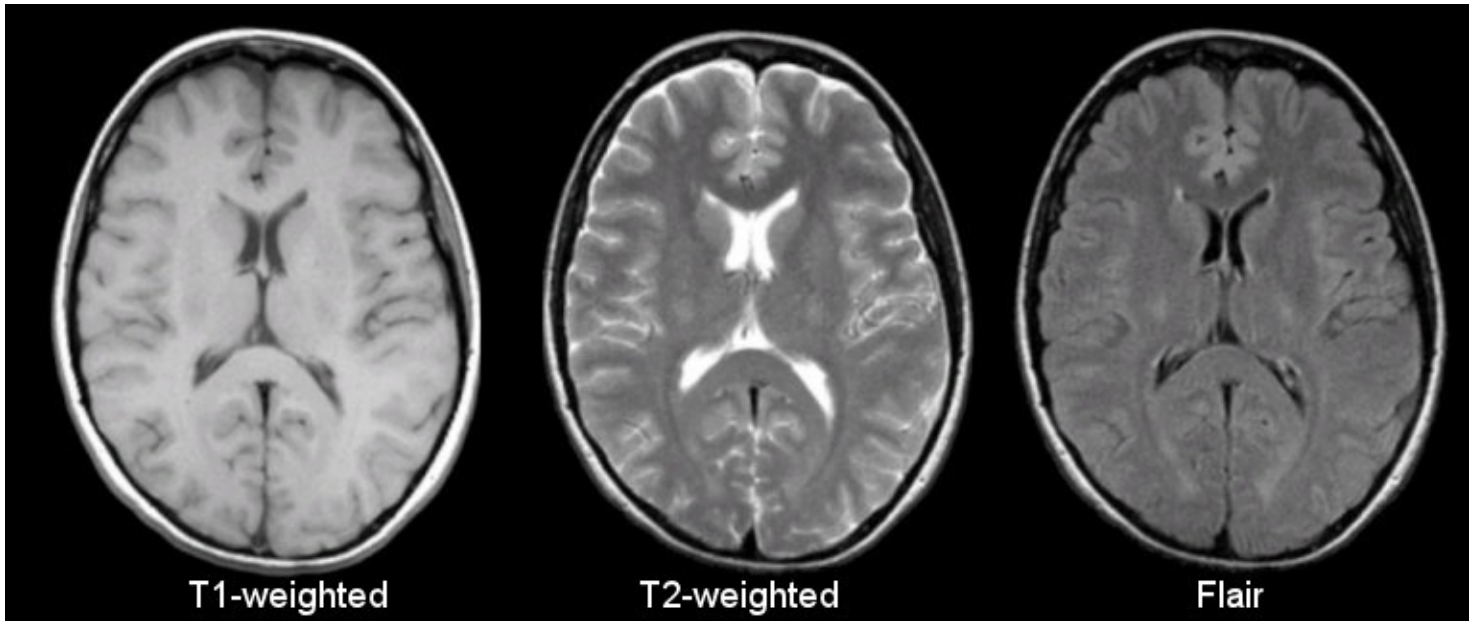

$$Mz = Mo\,(1-\exp(-TR/T1))\,\exp(-TE/T2)$$

# Séquences anatomiques en IRM cérébrale

| | TR (ms) | TE (ms) |
|---|---|---|
| **T1-Weighted** (short TR and TE) | < 500 | < 15 |
| **T1-Weighted post-Contrast** (short TR and TE) | < 500 | < 15 |
| **T2-Weighted** (long TR and TE) | 4000 | 90 |
| **Flair** (very long TR and TE) | 9000 | 110 |

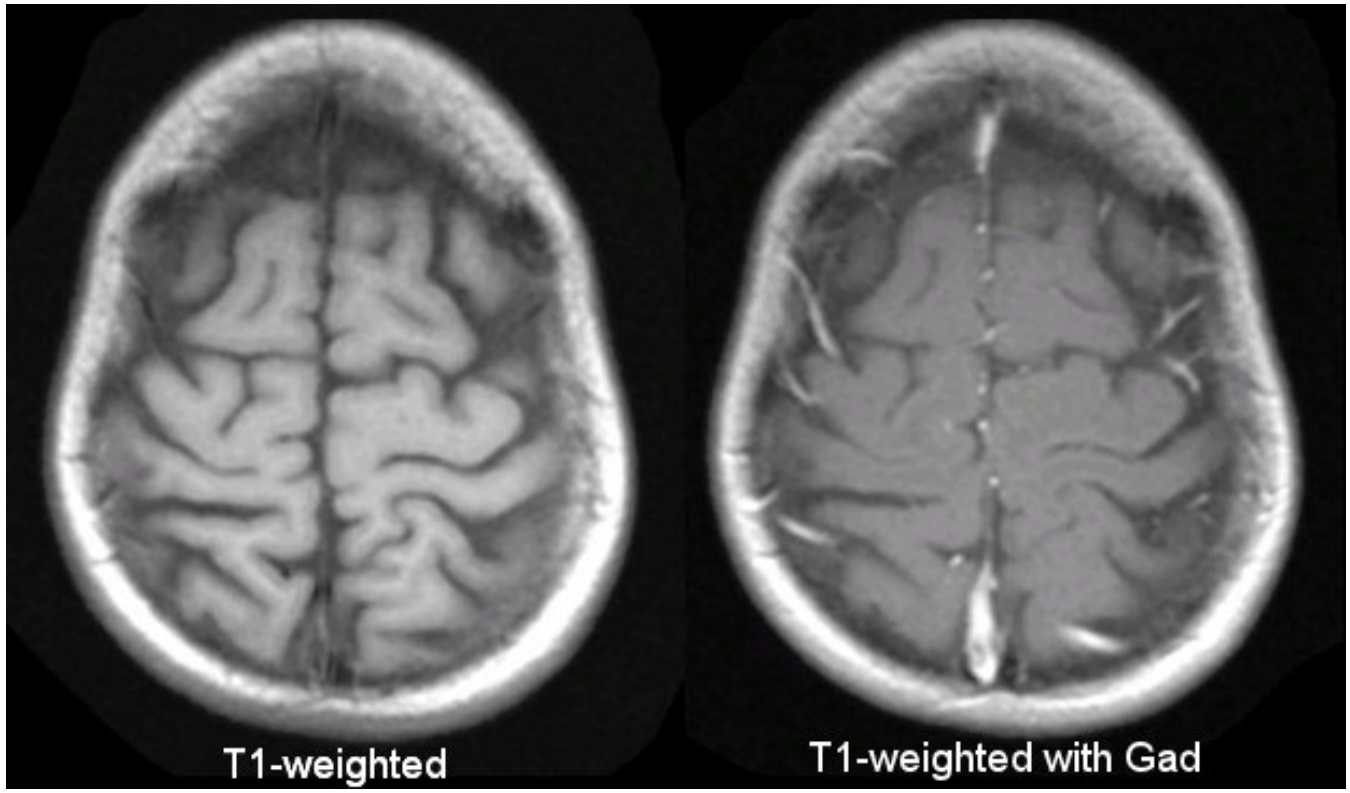
# Exemples d’IRM cérébrale



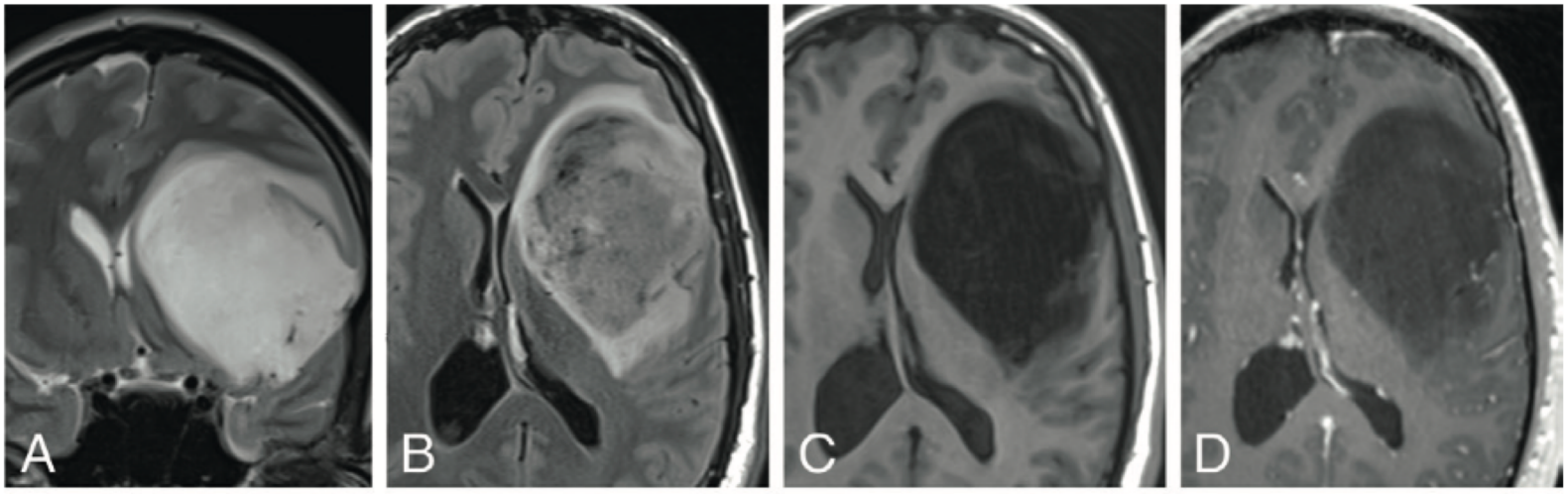



| Tissue | T1-Weighted | T2-Weighted | Flair |
|---|---|---|---|
| CSF | **Dark** | **Bright** | **Dark** |
| WM | **Light** | **Dark Gray** | **Dark Gray** |
| GM (Cortex) | **Gray** | **Light Gray** | **Light Gray** |
| Fat (bone marrow) | **Bright** | **Light** | **Light** |
| Inflammation | **Dark** | **Bright** | **Bright** |

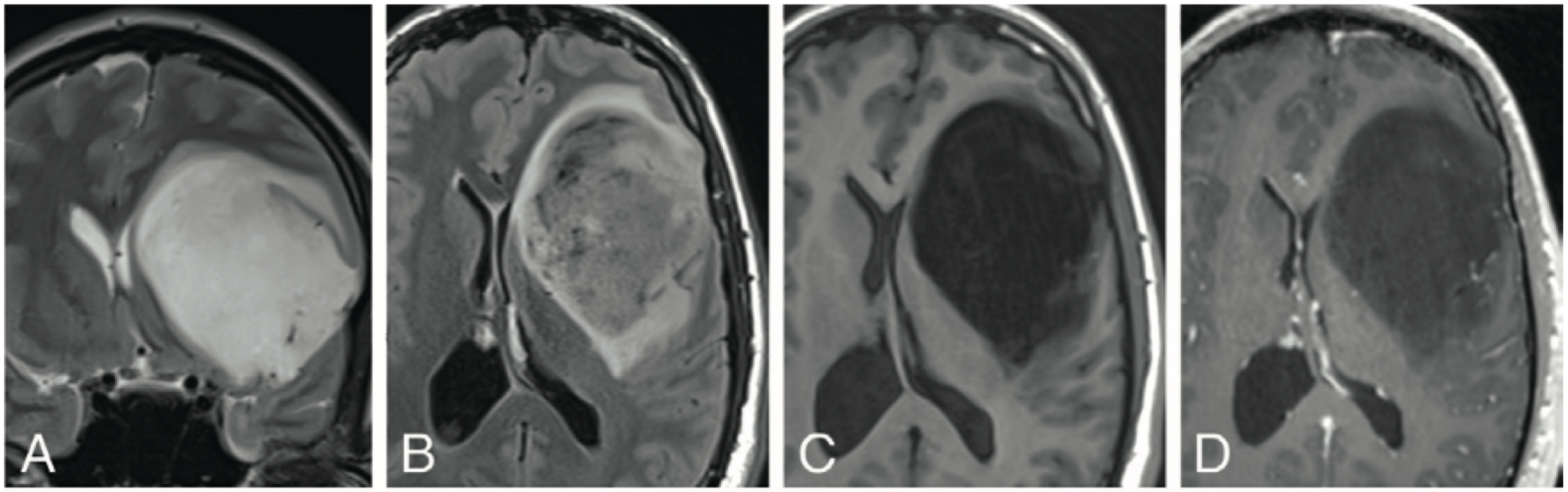
# Exemples d’IRM cérébrale



# Neuro-oncologie

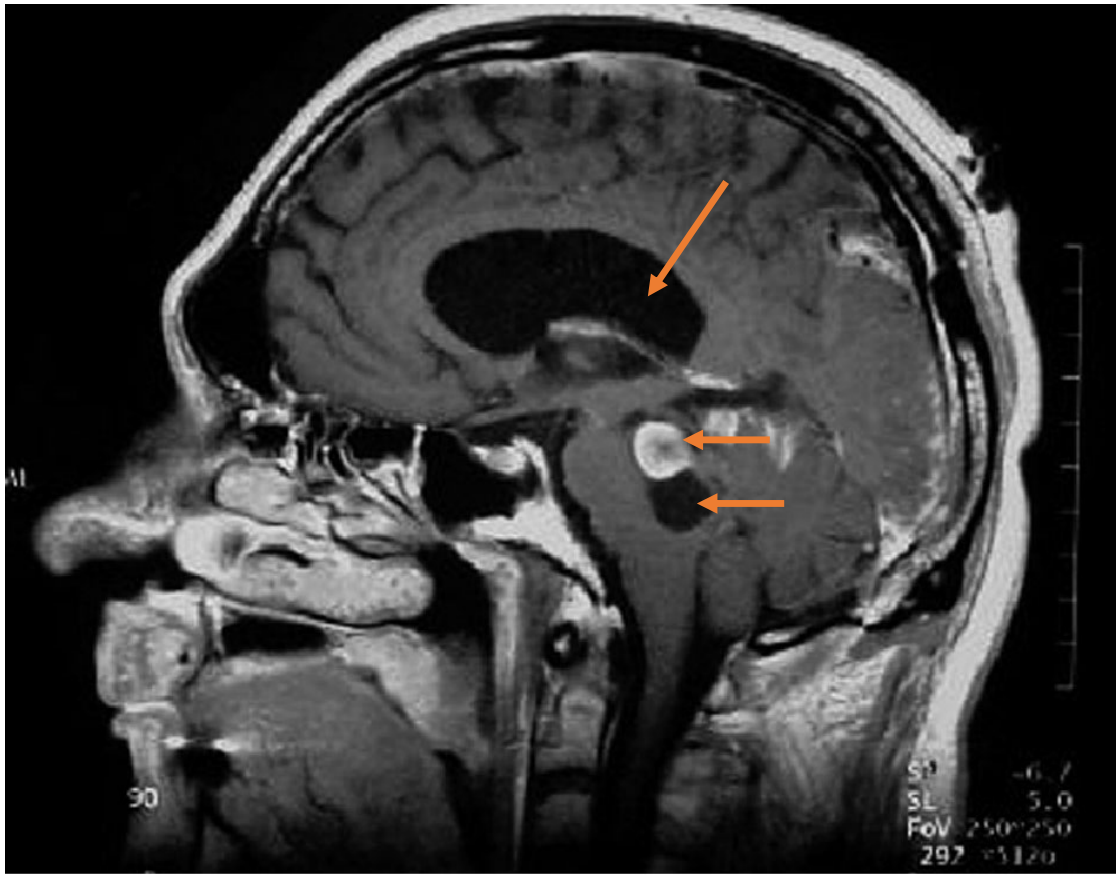


# Neuro-oncologie




**hypersignal T2 (A),**
**hyper-signal hétérogène FLAIR (B),**
**hyposignal T1 (C),**
**sans rehaussement T1 contraste (D),**

# Neuro-oncologie



Hydrocéphalie

Nodule prenant le contraste

Portion kystique

Séquence T1 avec injection de gadolinium