

# Nádory CNS

Tomáš Kazda

tomas.kazda@mou.cz

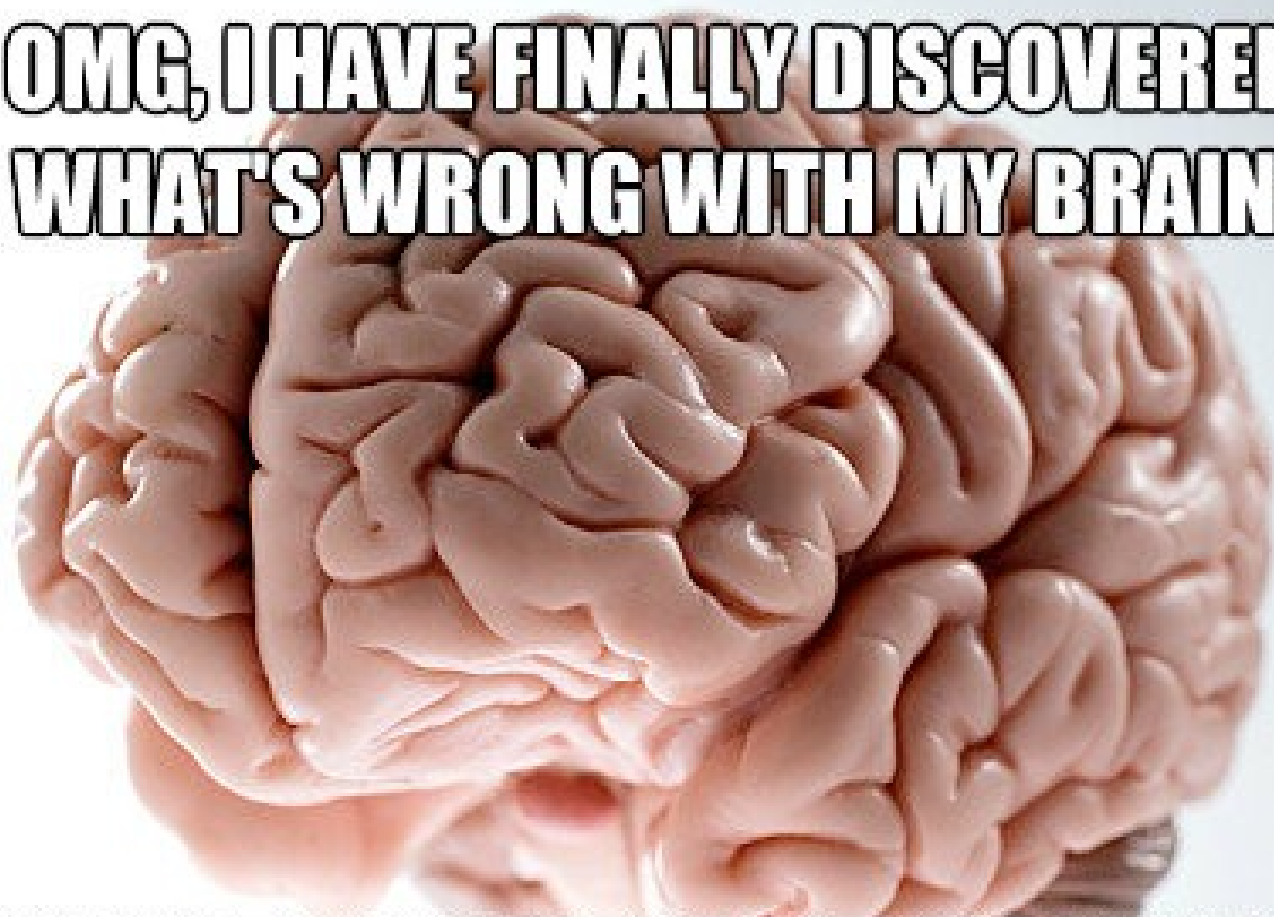
Klinika radiační onkologie  
MOÚ

- epidemiologie – jak časté (incidence, prevalence, mortalita)
- etiologie – příčiny vzniku (faktory vnitřní, zevní)
- symptomatologie
- diagnostika
- klasifikace (TNM), histologie
- léčba – kurativní, adjuvantní, paliativní, neoadjuvantní
  - operace, radioterapie, chemoterapie, hormonoterapie, cílená léčba, imunoterapie, podpůrná léčba

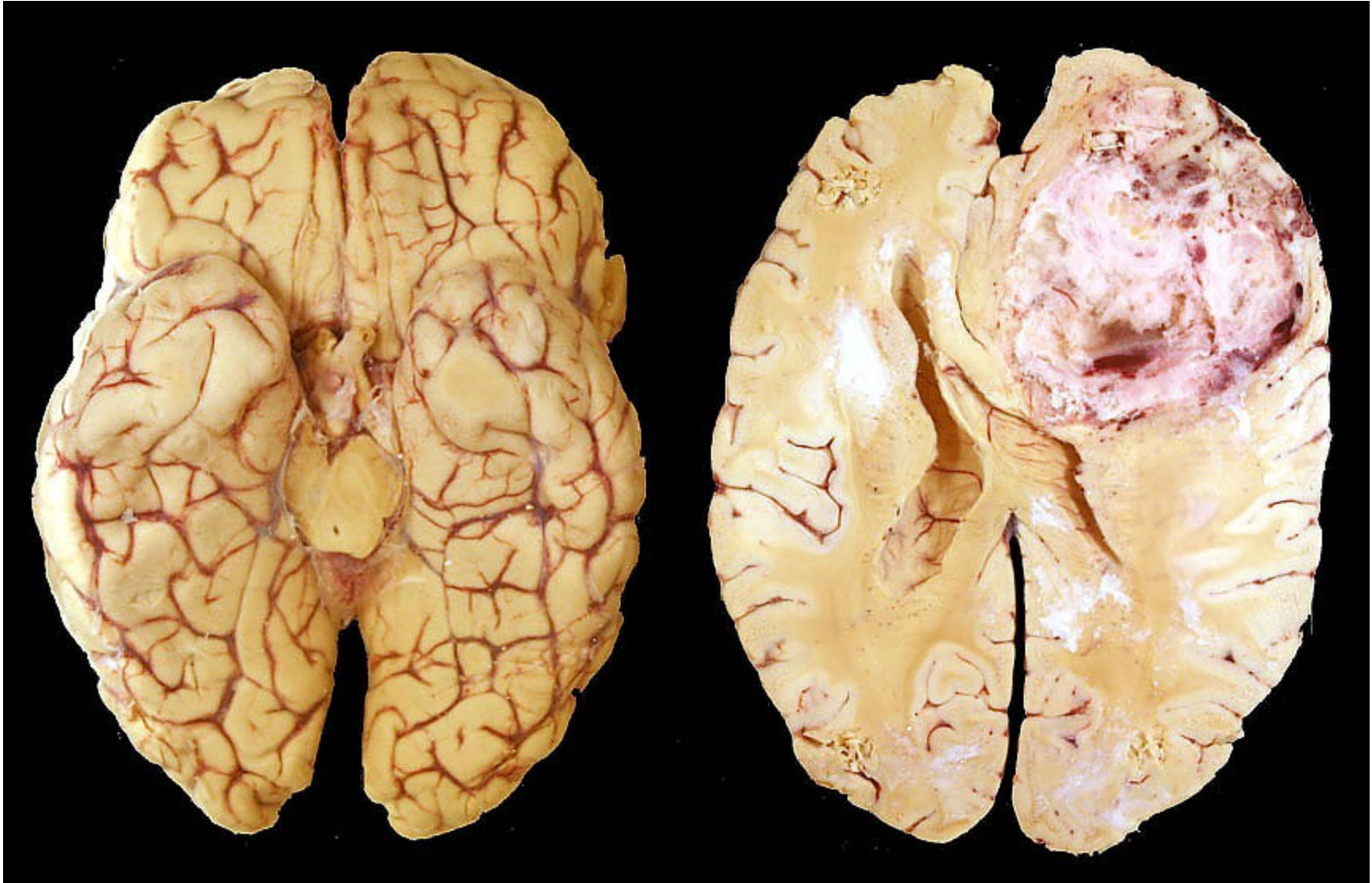
# Nádory CNS

- primární vs. sekundární; benigní vs. maligní; děti vs. dospělí
- mozkové MTS až 10x častější (cca 30% všech onko pacientů)
- primární nádory mozku jsou relativně vzácné (ale u dětí nejčastější solidní nádory)
- etiologie neznámá (genetika, záření; Mobilní telefony – ne)
- epileptické záchvaty, bolesti hlavy, závratě, nevolnosti, ložiskové symptomy
- MRI, ± PET
- low grade (astrocytomy), high grade (nejzhoubnější glioblastom, medián přežití 14M)
- meduloblastomy, oligodendrogliomy
- meningeomy, adenomy hypofýzy
- maximální možnou resekce (navigace, peroperační stimulace, operační mikroskop)
- pooperační léčba – chemoterapie a radioterapie
- paliativní léčba recidiv

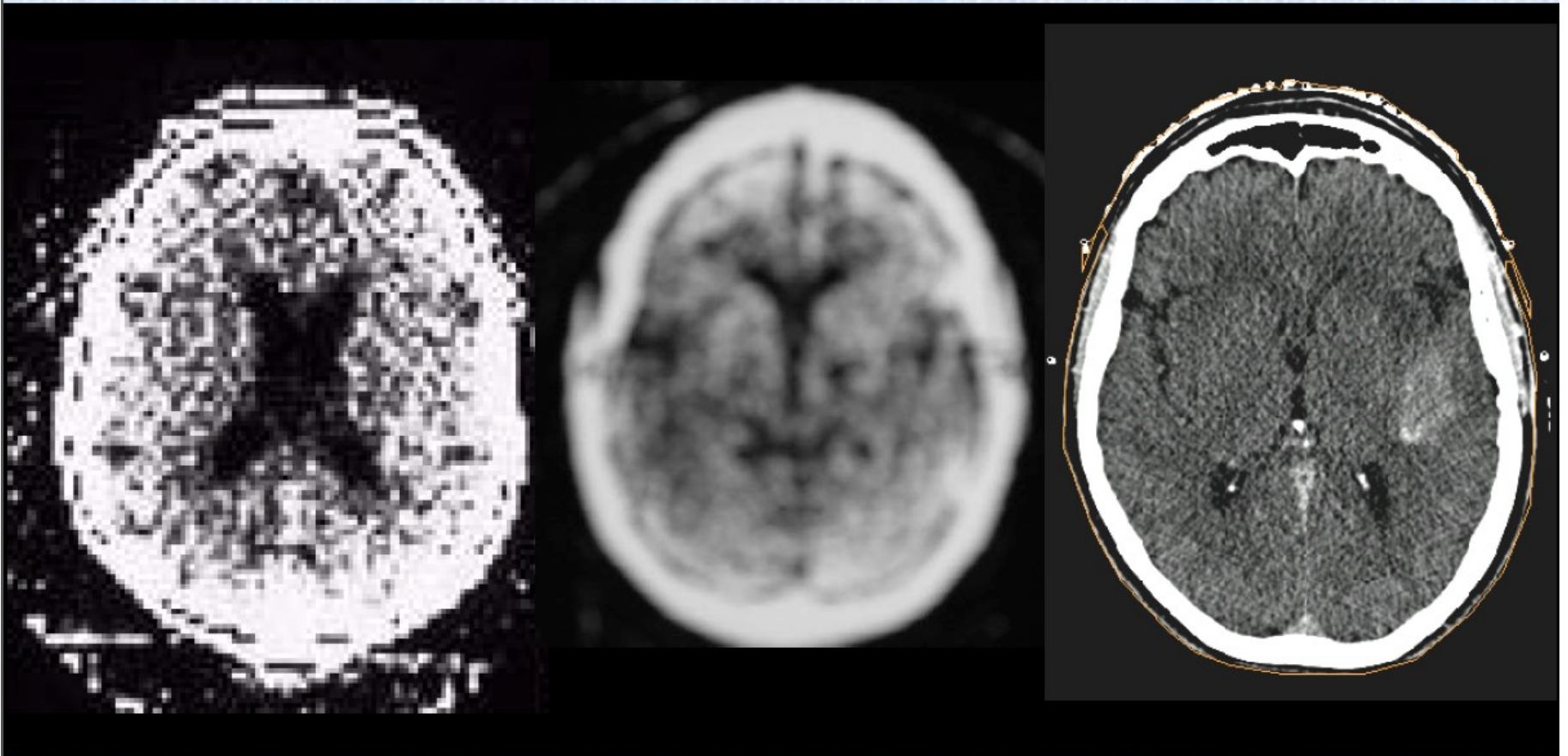
**OMG, I HAVE FINALLY DISCOVERED  
WHAT'S WRONG WITH MY BRAIN:**



**ON THE LEFT SIDE, THERE'S NOTHING RIGHT, AND  
ON THE RIGHT SIDE, THERE'S NOTHING LEFT**



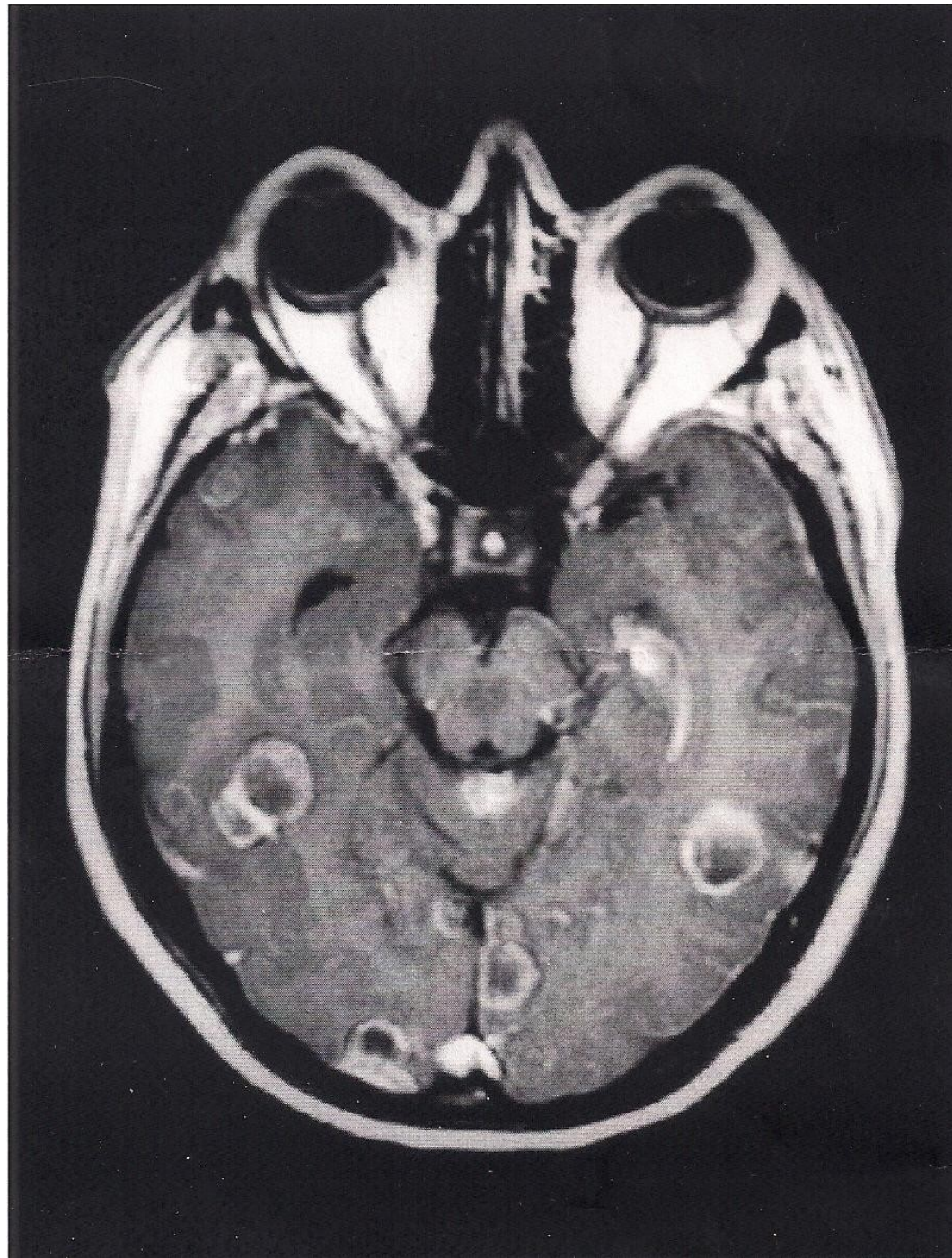
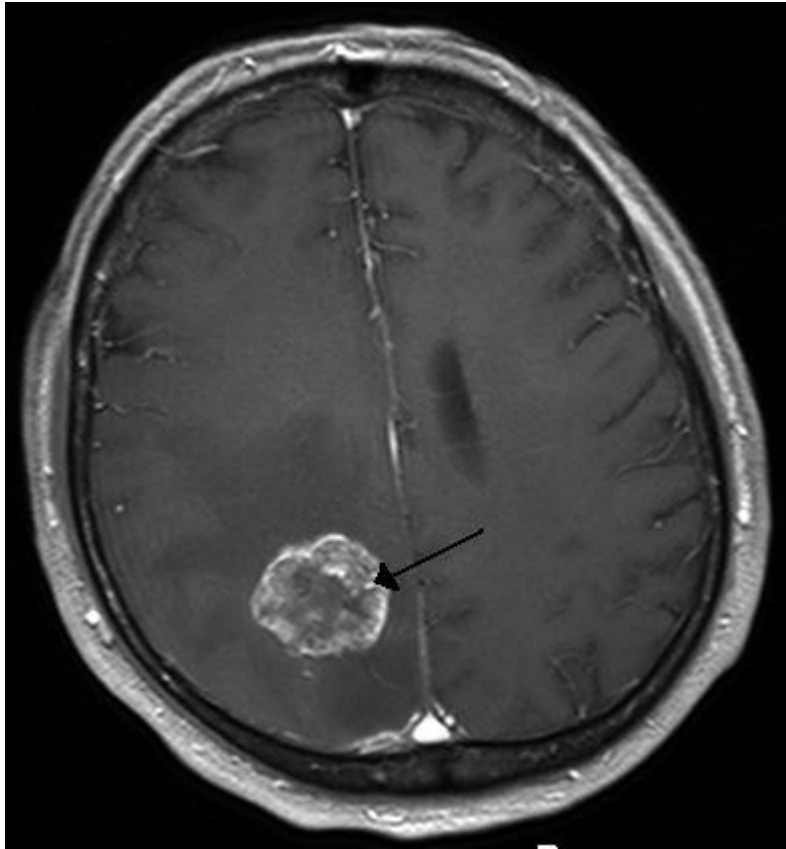
# Technology advance

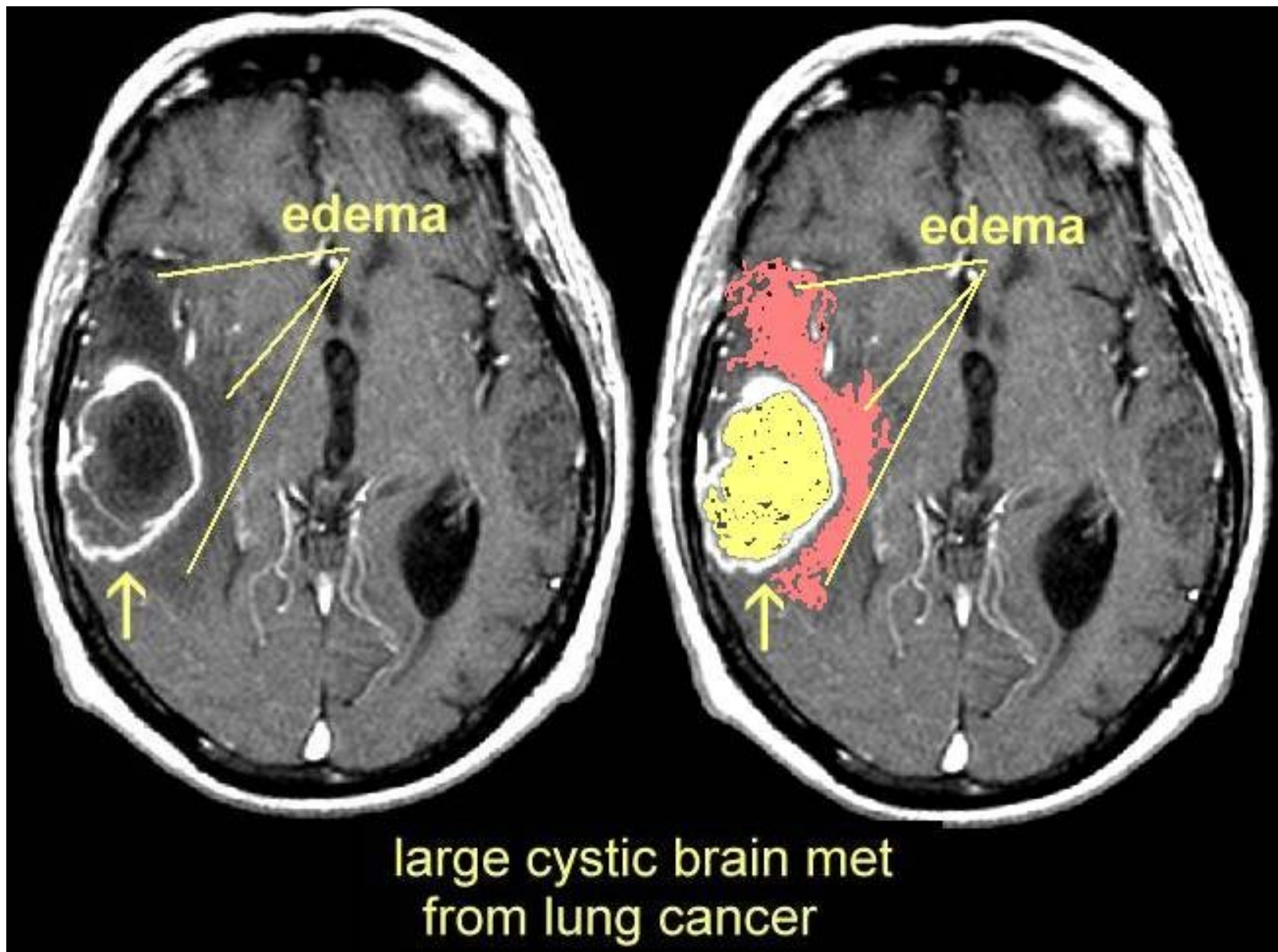


Late 1970s

1980s

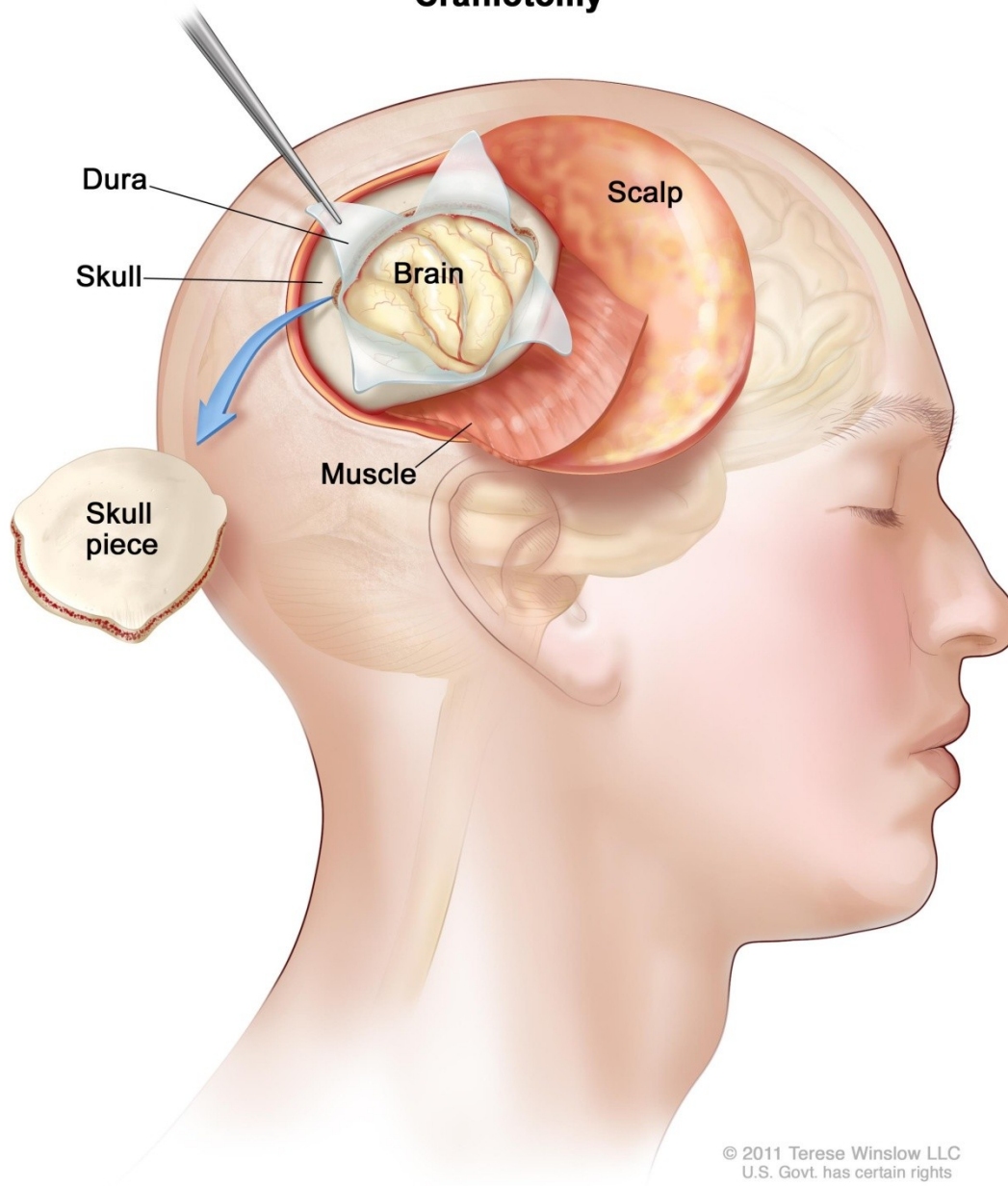
2003



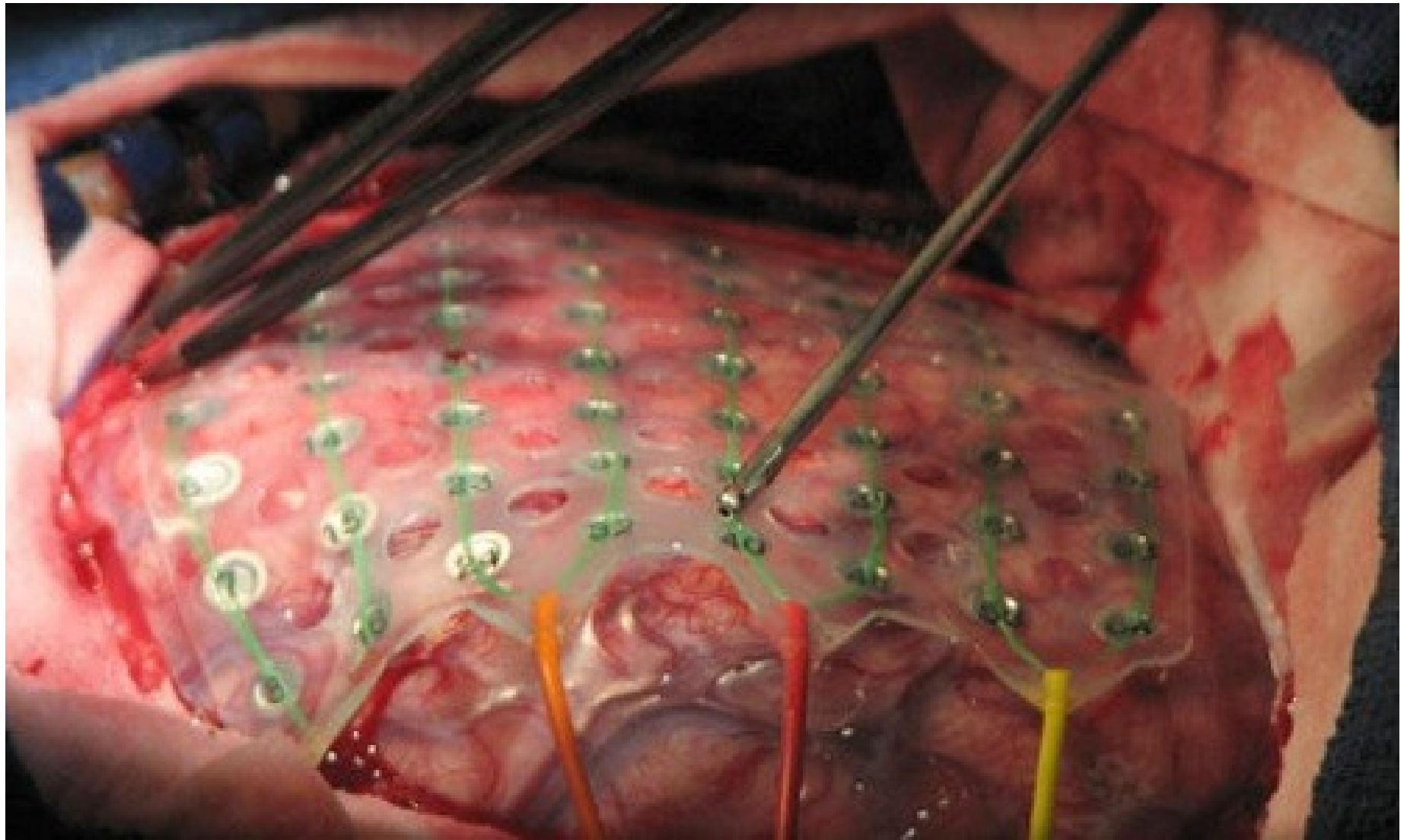




# Craniotomy









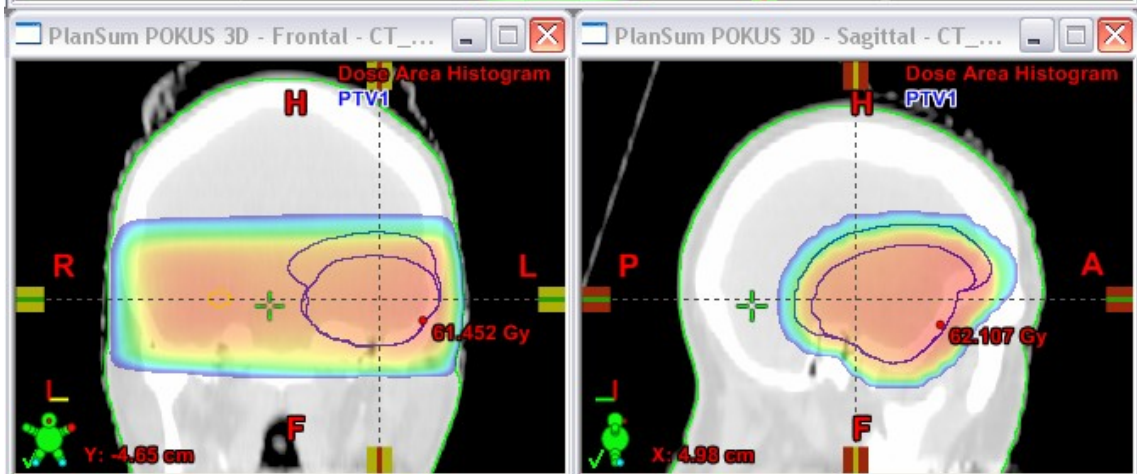
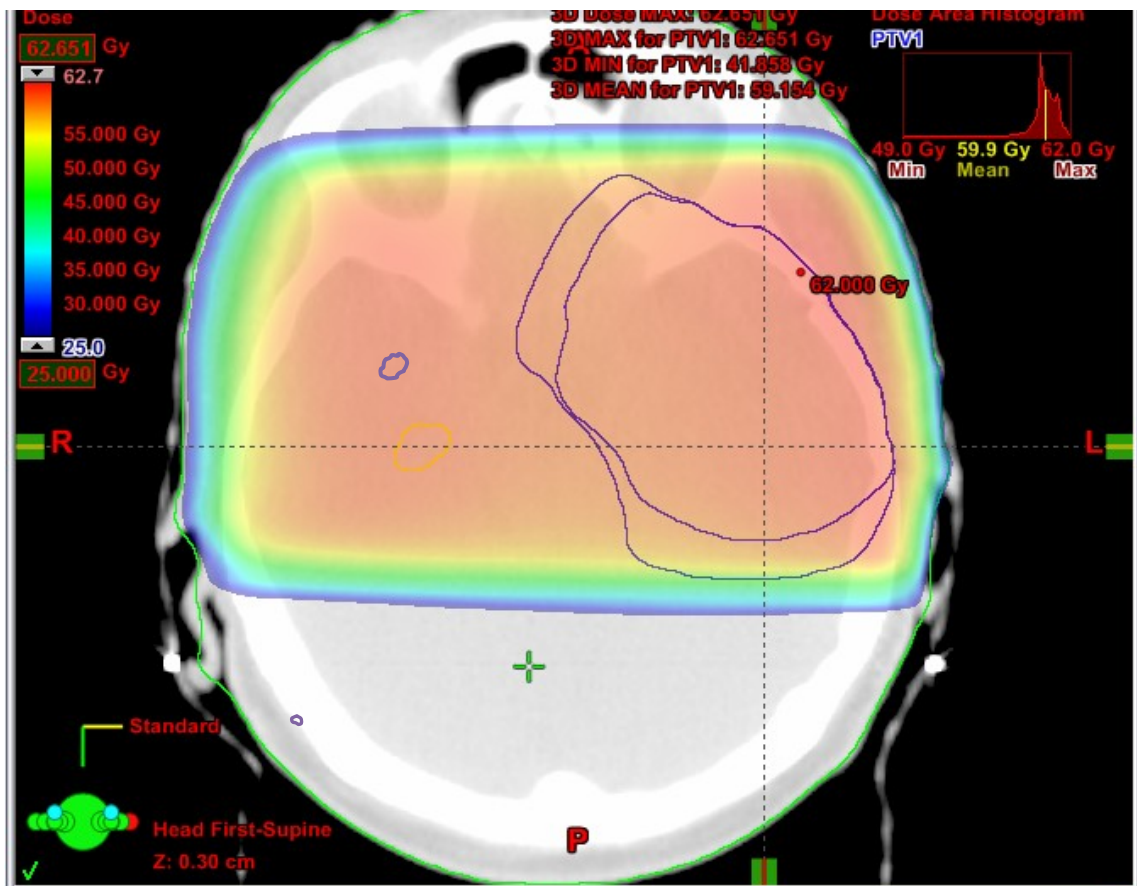


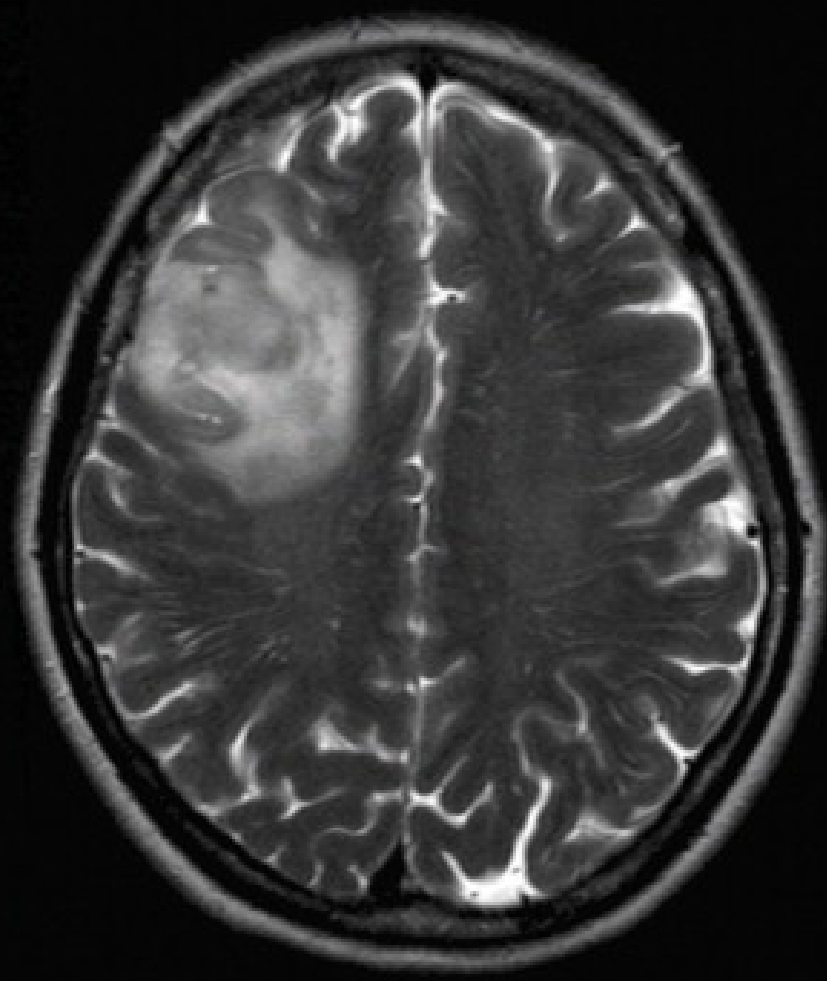


**CAUTION**  
CARBON FIBRE COUCH  
MAXIMUM SAFE WORKING LOADS  
Exceeding maximum safe working load may result in  
Equipment Damage. Consult operator's manual for  
specific load ratings not listed below.

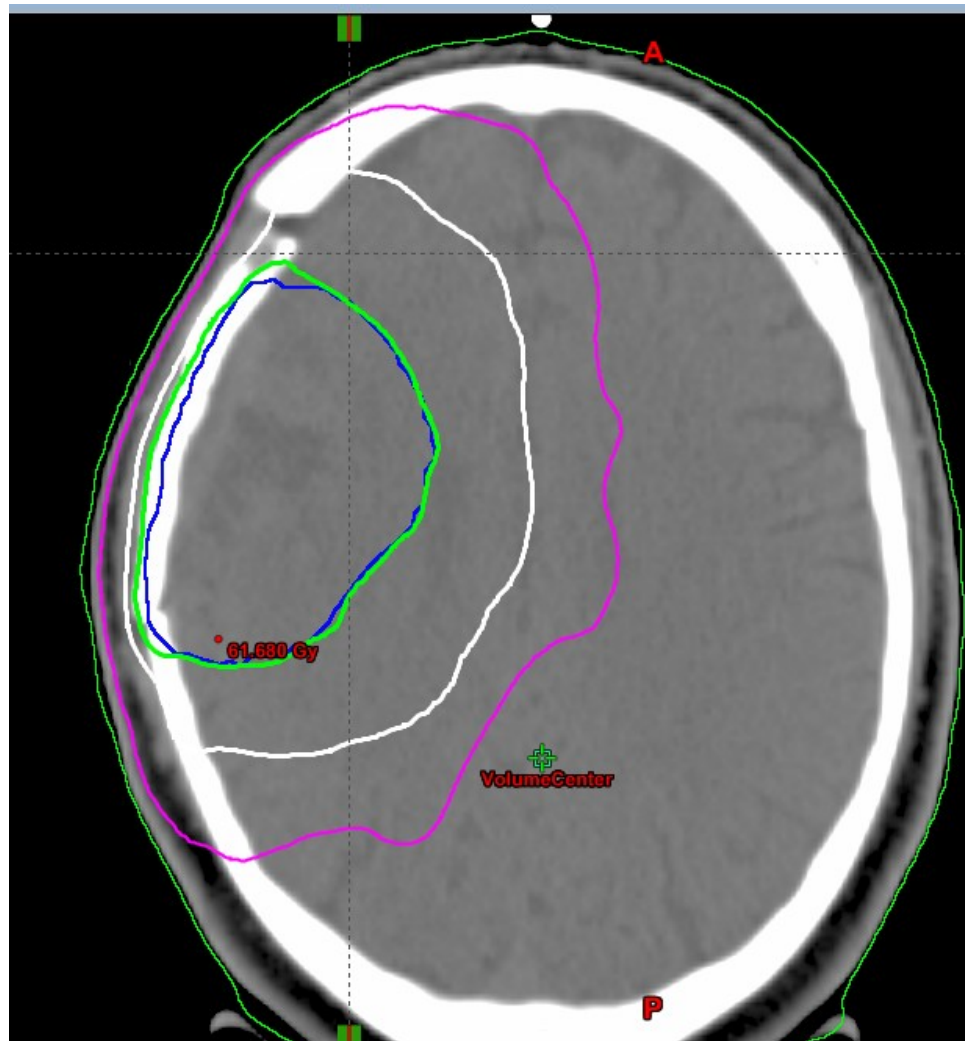
Couch Top	500kg (1100lb)
Arms	50kg (110lb)
Foot Panel	50kg (110lb)

© 2004 SMI  
SMI-11000



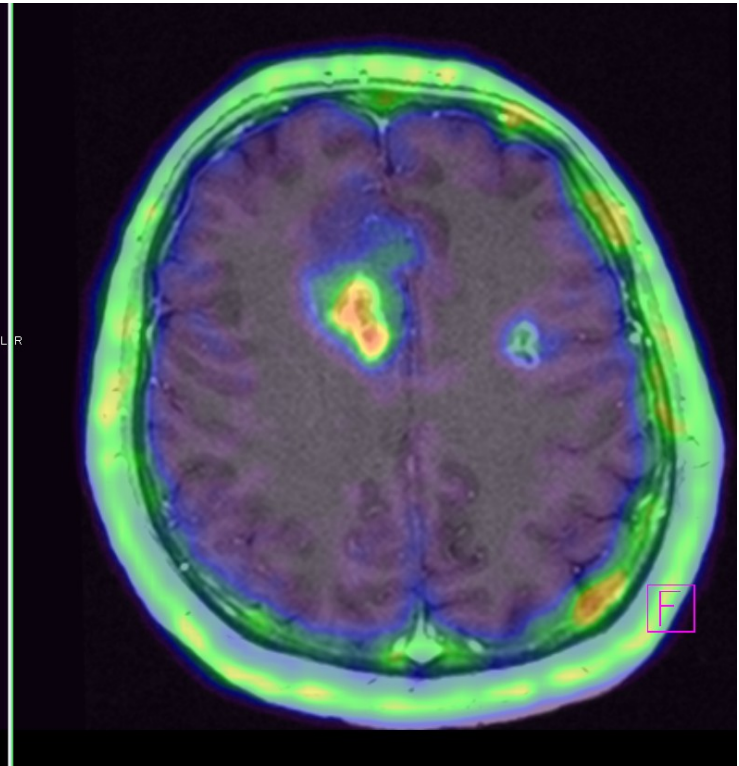
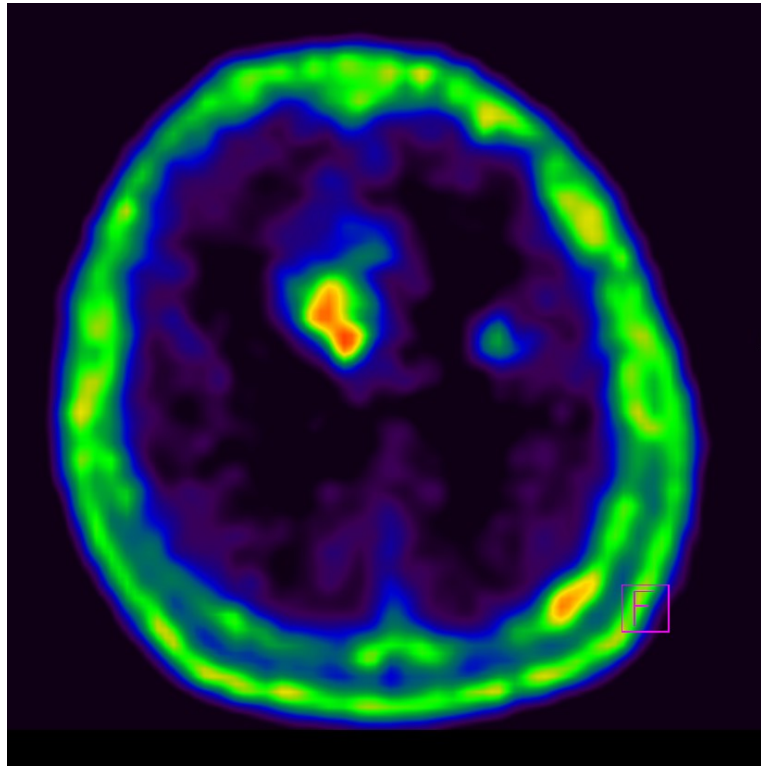
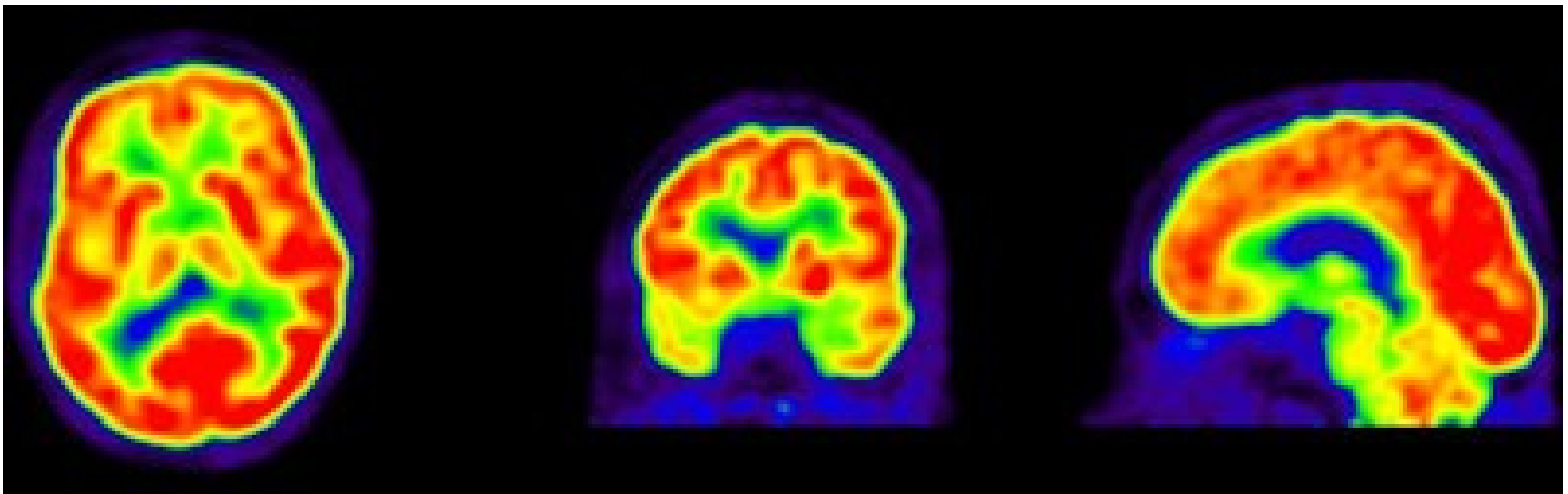


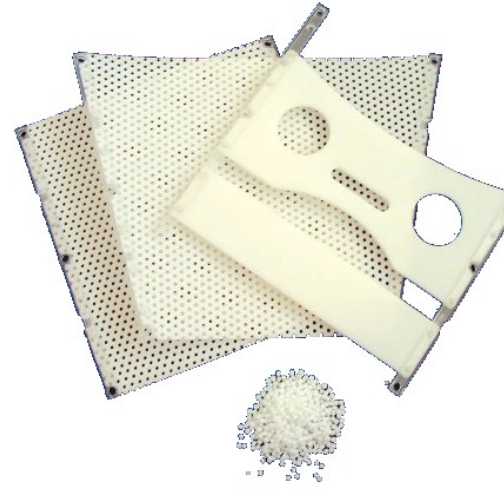
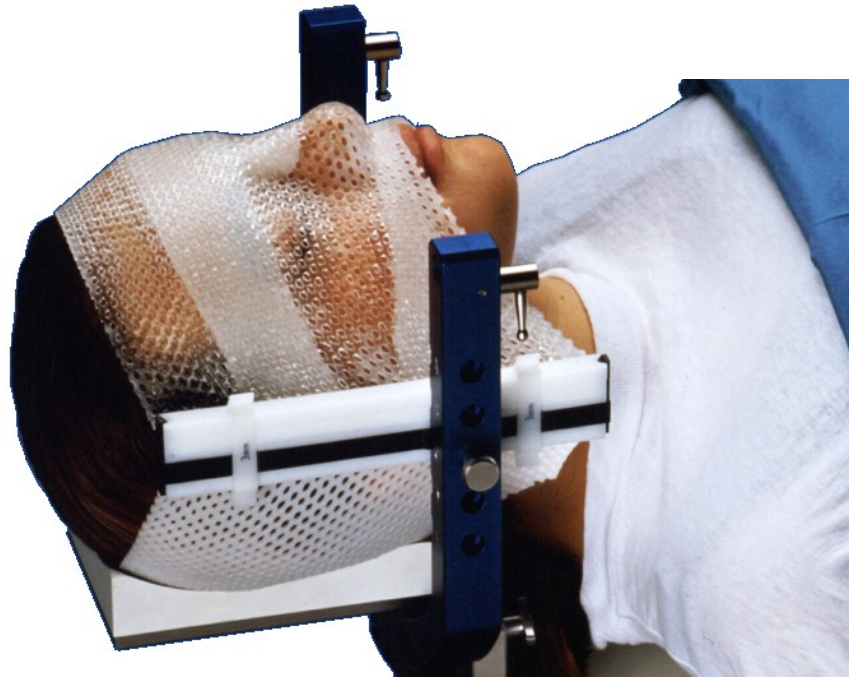


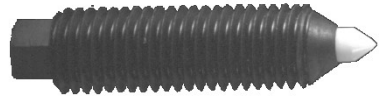
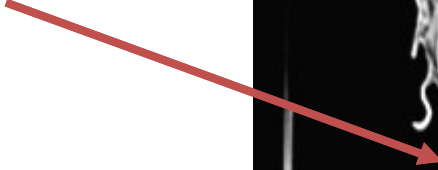
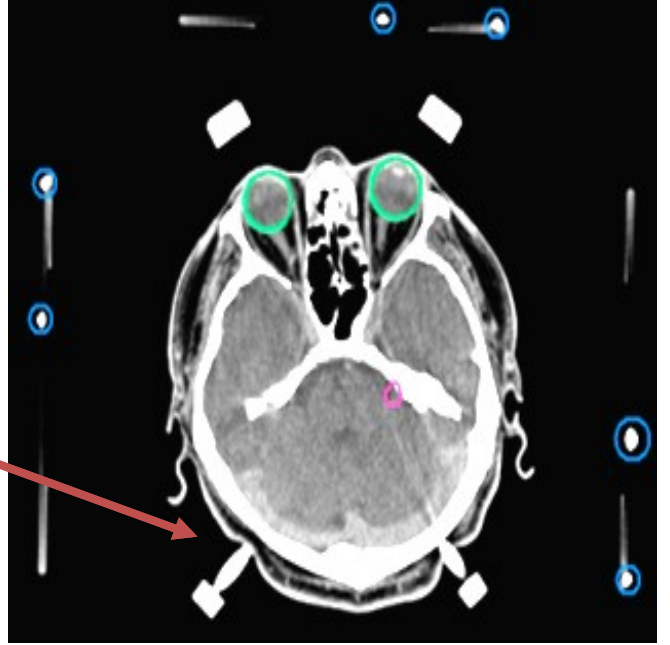


MODRÁ – cílový objem

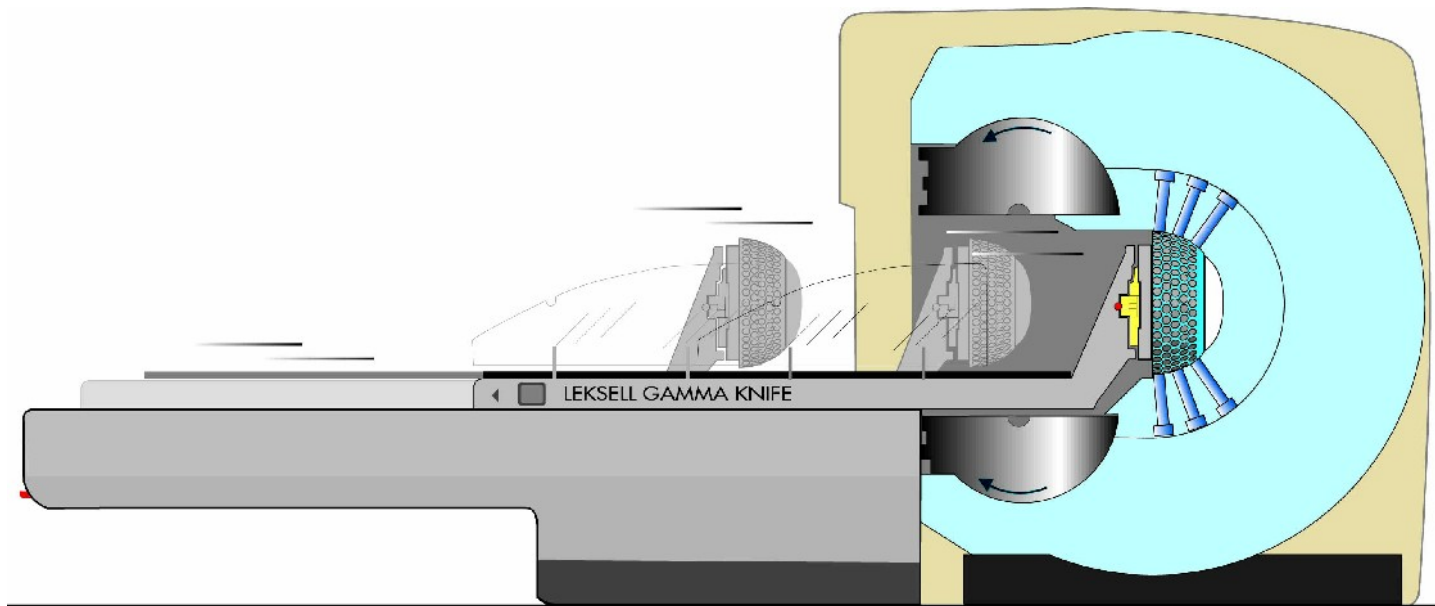
ZELENÁ – 95% izodoza (oblast kde je požadovaná dávka)



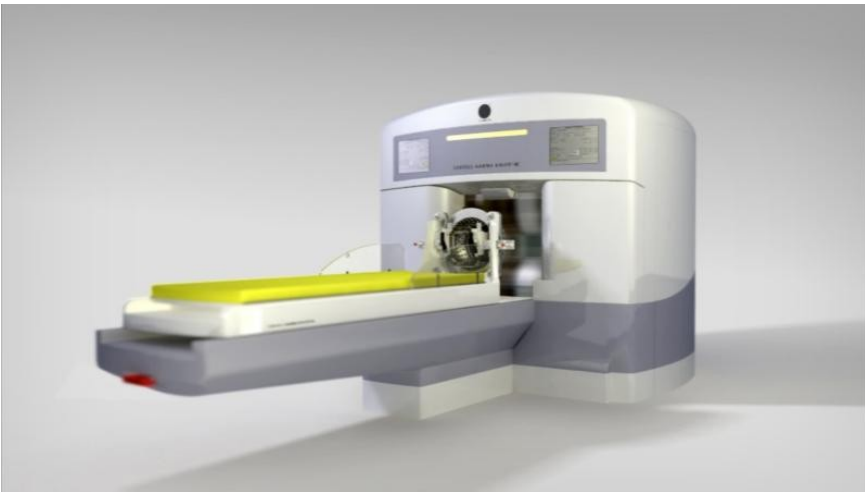




# Gamma knife

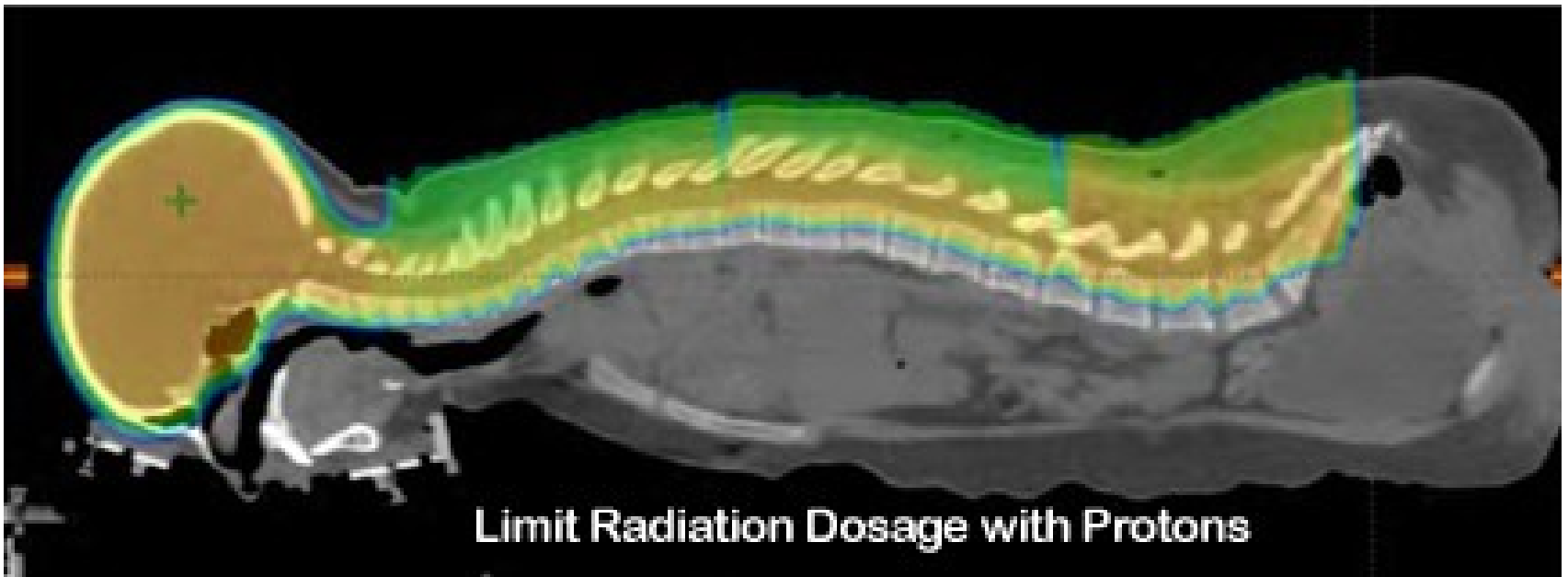
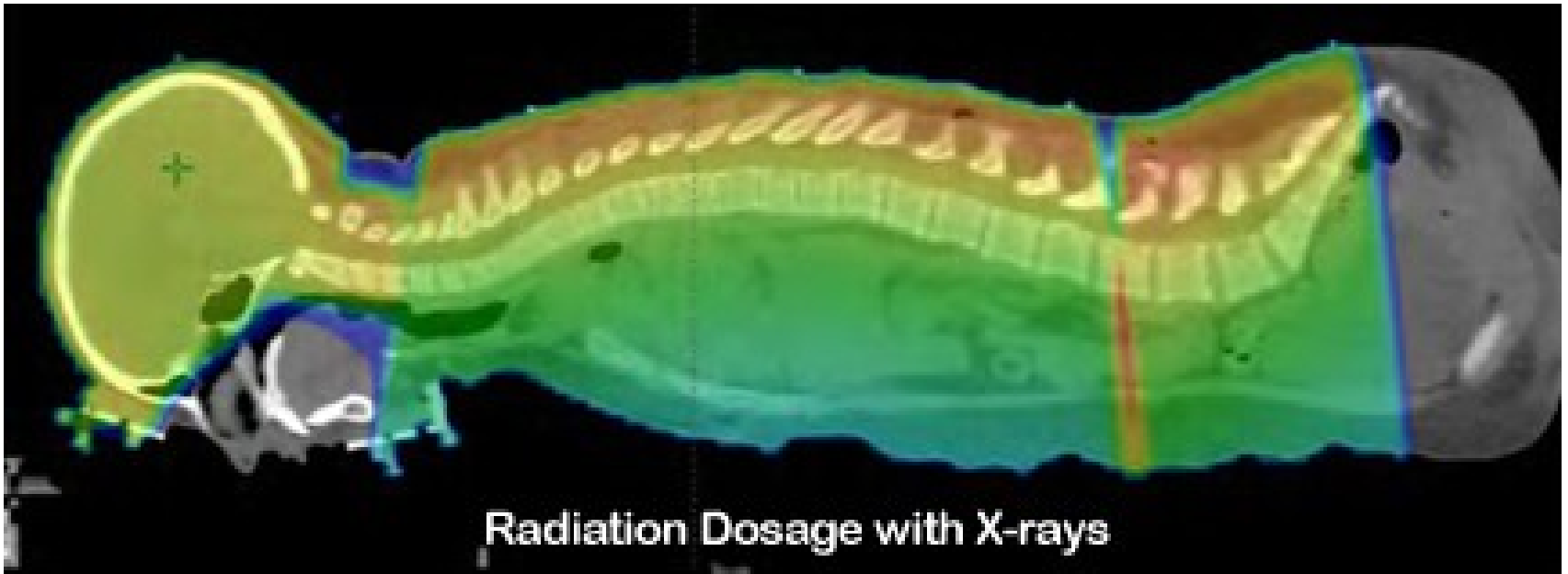


**Leksell's gama-knife**



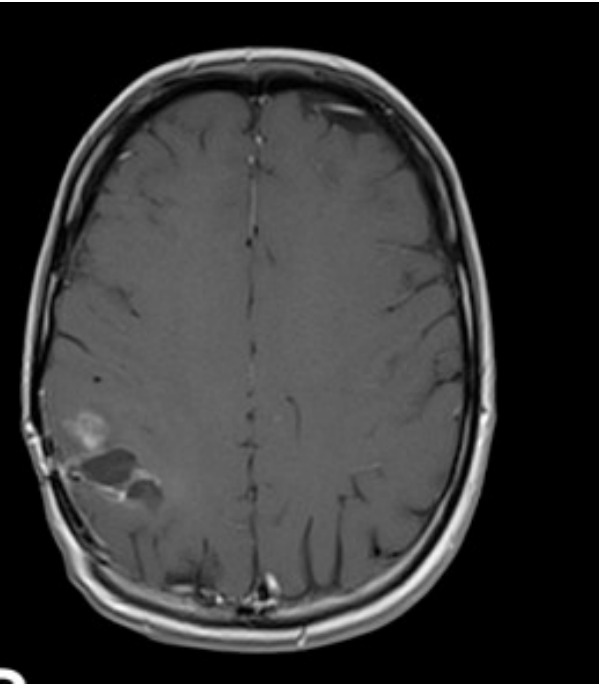
**Cyber-knife**



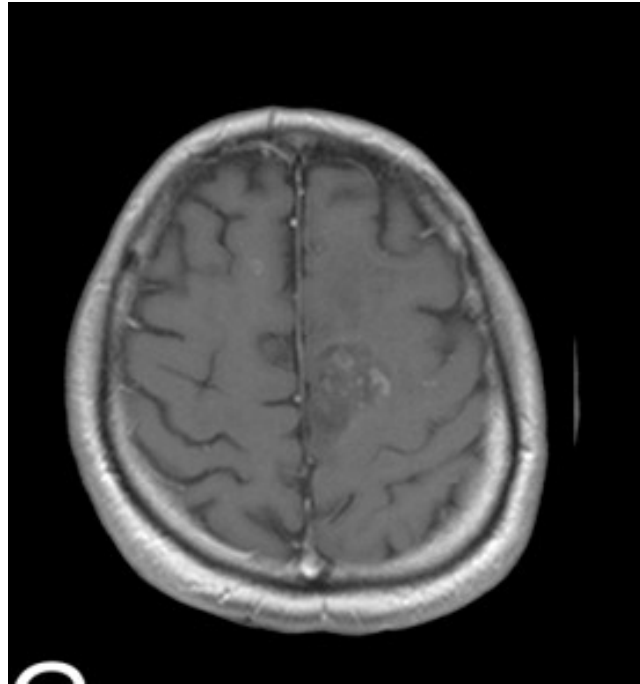




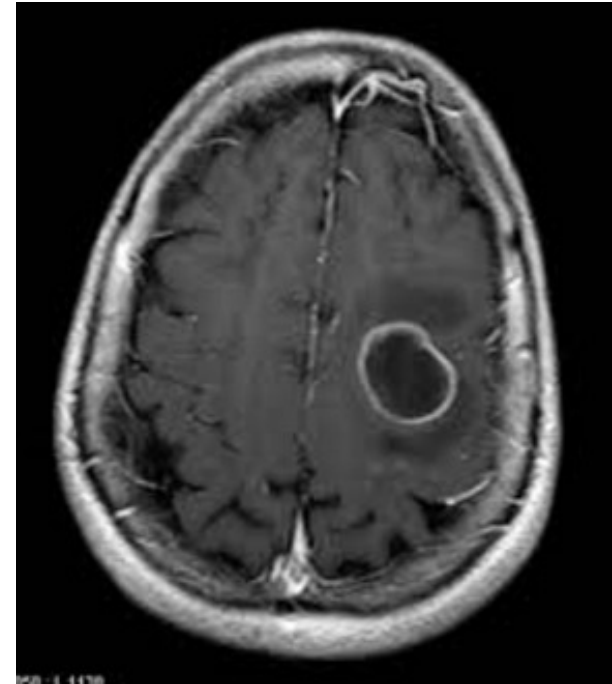




Pseudoprogrese



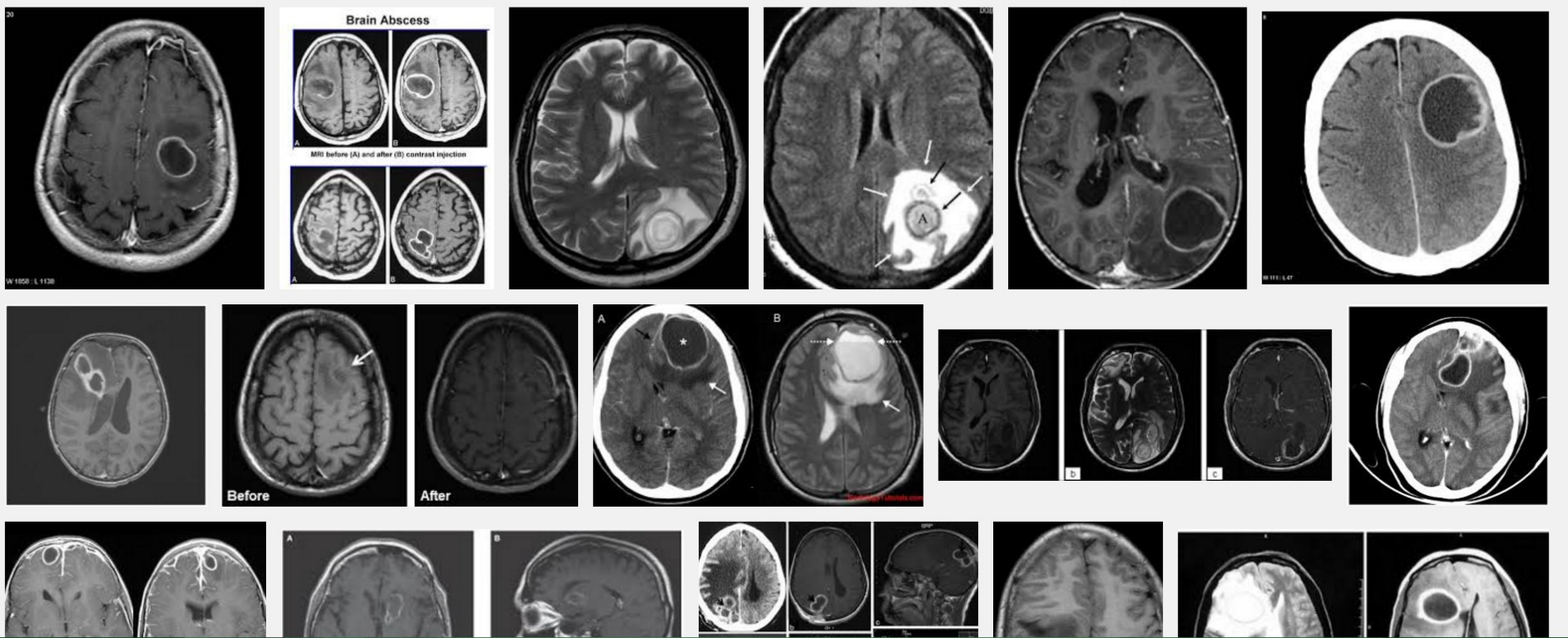
Recidiva



???

Internet **Obrázky** Video Zprávy Nákupy Více ▾ Vyhledávací nástroje

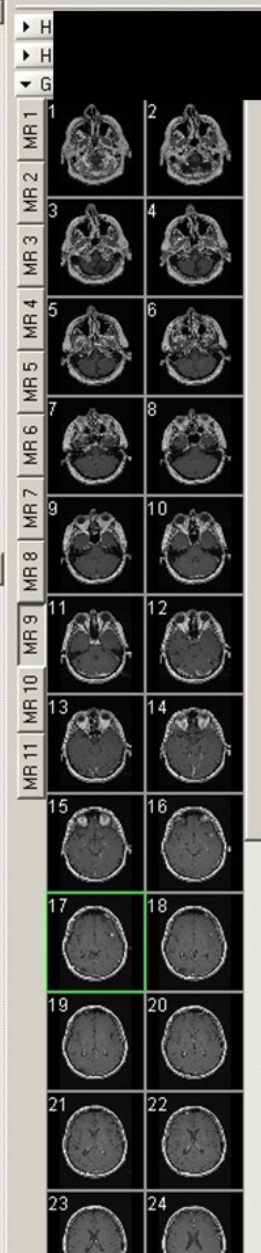
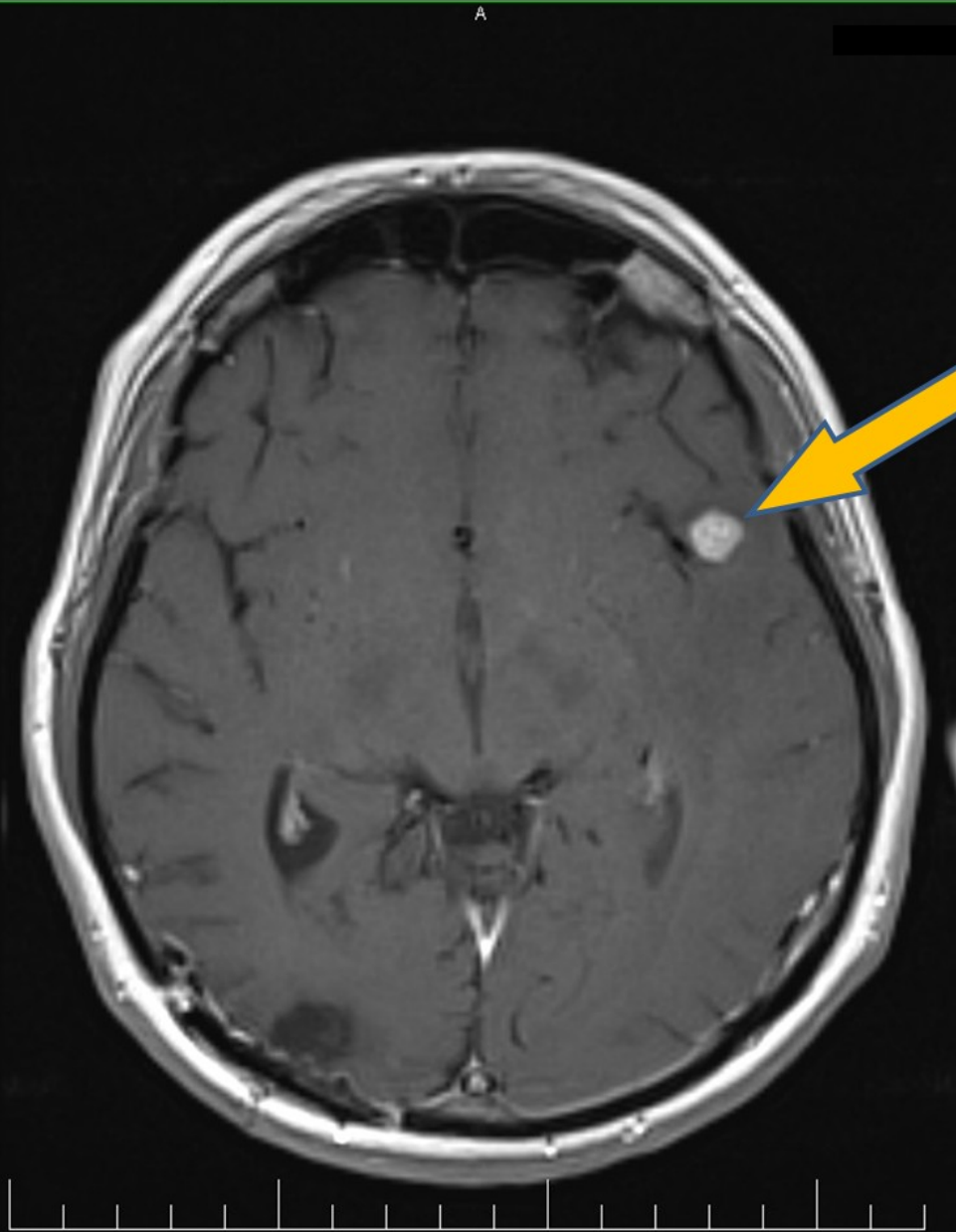
Bezpečné vyhledávání ⌵



MR/9/17  
Axial  
t1\_se\_TRA\_3mm\_MTC  
20 ml MAGNEVIST

MOU BRNO

5/120/12080  
1957/12/7  
54Y M  
RDG2012039423  
2012/6/10  
08:11:17



ET: 1  
TR: 692.0  
TE: 16.0  
Pixel size: 0.938 mm



Selection Registration Contouring Field Setup Plan Evaluation

Fields Dose Prescription  Field Alignments  Plan Objectives  Optimization Objectives Dose Statistics Calculation Models Plan Sum

Group	Field ID	Technique	Machine/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	SSD [cm]	MU	Ret. D [Gy]
<input checked="" type="checkbox"/>	VMAT_1	ARC-I	Clinac_iX_LU1 - 6X	Dose Dyn. Arc	0.72	Varian IEC	179.0	30.0	0.0	None	17.8	+9.4	+8.4	16.1	+9.0	+7.0	0.0	-5.0	3.0	91.3	296	
<input checked="" type="checkbox"/>	VMAT_2	ARC-I	Clinac_iX_LU1 - 6X	Dose Dyn. Arc	0.72	Varian IEC	181.0	330.0	0.0	None	17.8	+8.4	+9.4	16.1	+9.0	+7.0	0.0	-5.0	3.0	91.3	292	
<input checked="" type="checkbox"/>	SETUP_0	STATIC-I	Clinac_iX_LU1 - 6X		0.00	Varian IEC	0.0	0.0	0.0	None	15.0	+7.5	+7.5	15.0	+7.5	+7.5	0.0	-5.0	3.0	89.9		
<input checked="" type="checkbox"/>	SETUP_270	STATIC-I	Clinac_iX_LU1 - 6X		0.00	Varian IEC	270.0	0.0	0.0	None	15.0	+7.5	+7.5	15.0	+7.5	+7.5	0.0	-5.0	3.0	91.7		

