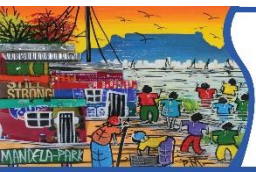


The best treatment for trigeminal neuralgia. Is the customer always right?

Arif Zafar, Debopriya Bhattacharyya
Royal Hallamshire Hospital, UK

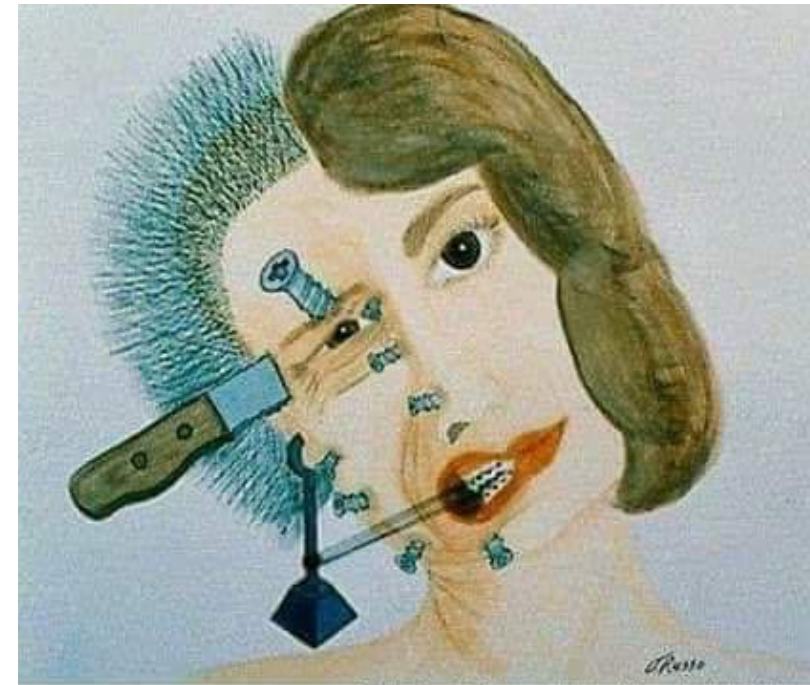


The National Centre for
Stereotactic Radiosurgery



Trigeminal Neuralgia

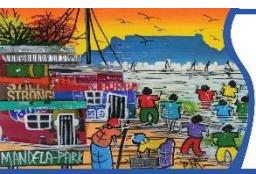
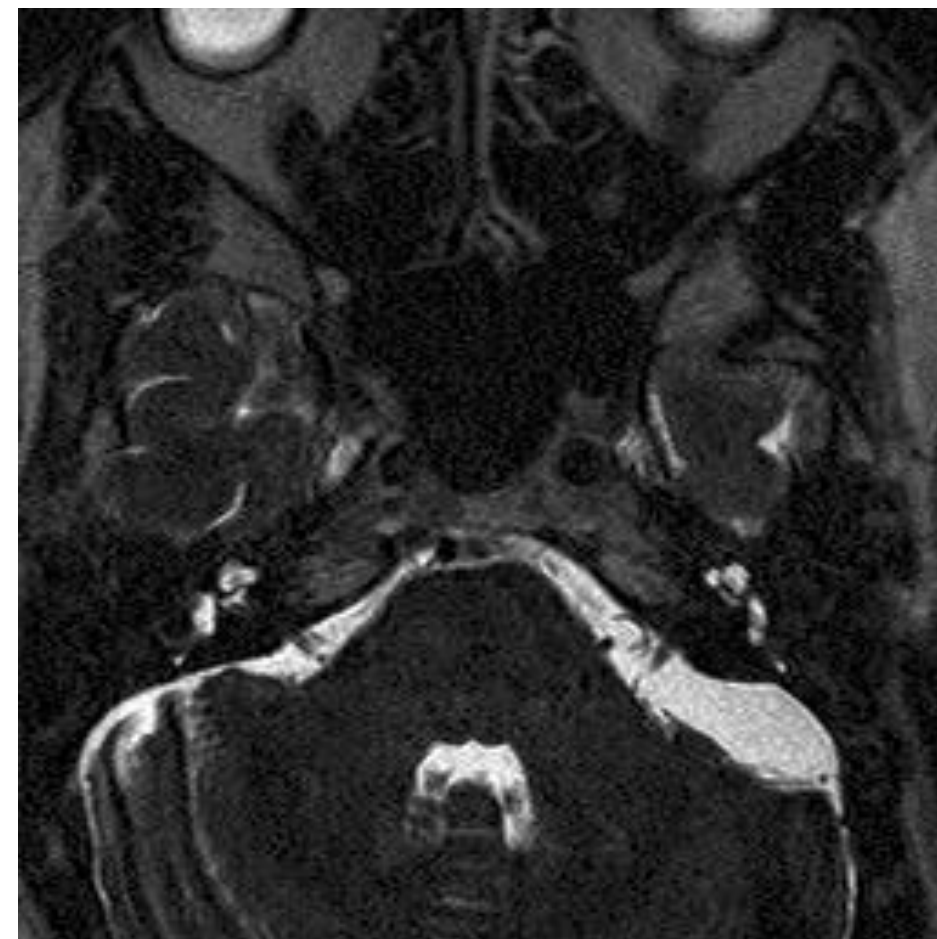
- *“intense unilateral shooting or electric pain to the area supplied by the sensory distribution of the affected trigeminal nerve branch”* (ICHD)
 - Classic
 - Idiopathic
 - Secondary
- 10 per 100,000 people in UK
- Treatment options
 - Pharmacological
 - Percutaneous procedures
 - Microvascular Decompression
 - Stereotactic Radiosurgery



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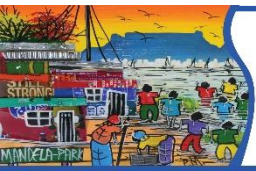
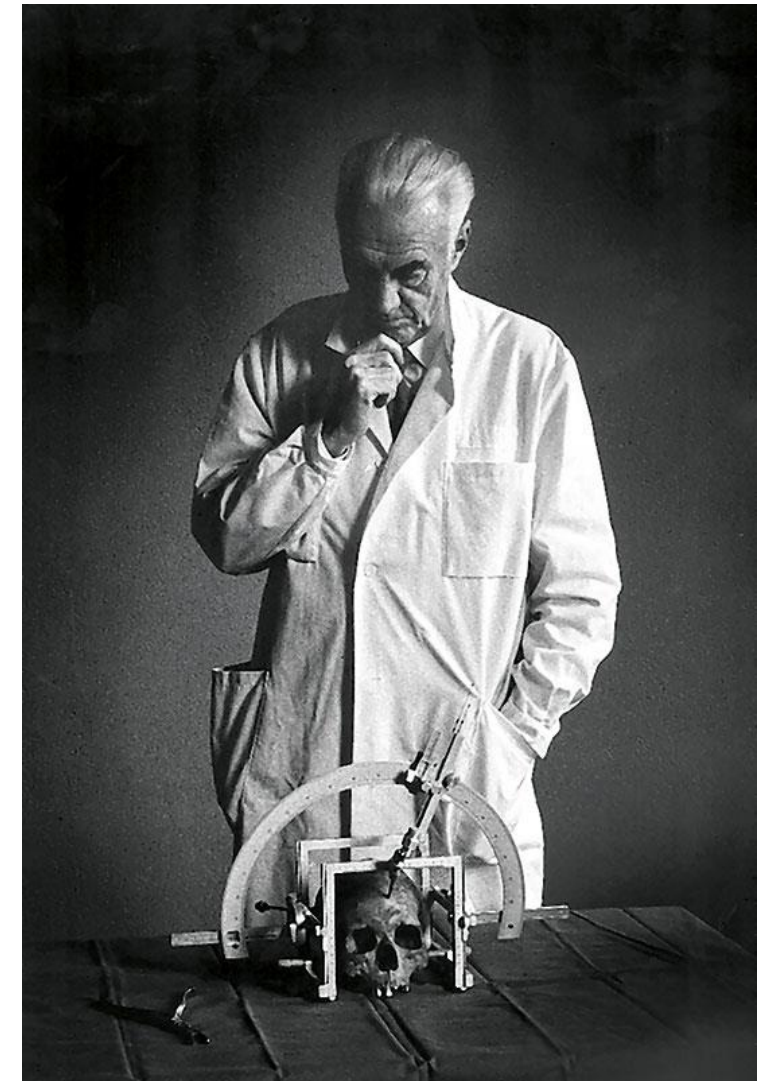
Background

- CP Angle pathologies causing TGN published since 1930s
- Trigemintomy often performed to alleviate symptoms
- Taarnhoj (1952) described decompression of nerve through temporal approach
- Popularised by Gardner



Gamma Knife Surgery

- Stereotaxy – Horsley and Clarke 1908
- Localise using co-ordinates and frame
- Lars Leksell – Arc centred device 1948
 - Stereotactic Radiosurgery (SRS) 1951
 - First GK unit 1968
- Photon source
 - Cobalt
 - LiNac



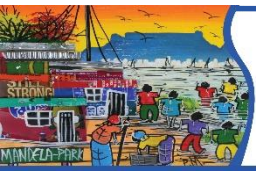
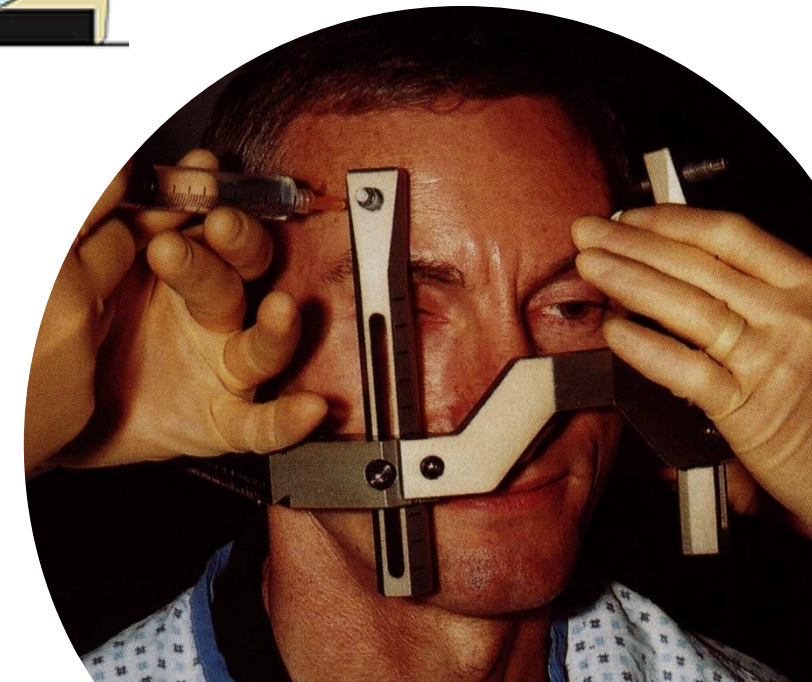
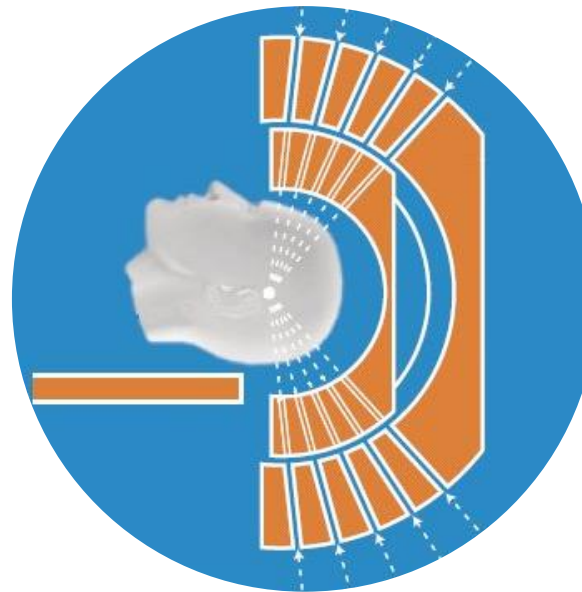
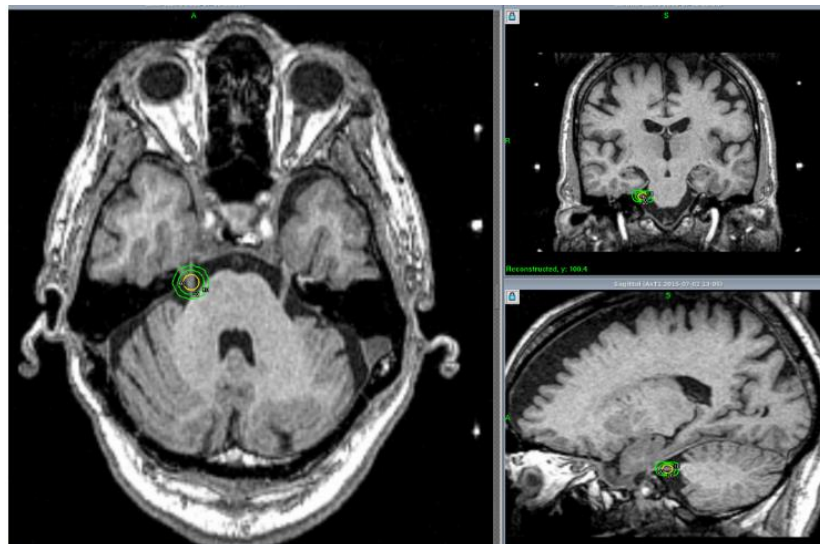
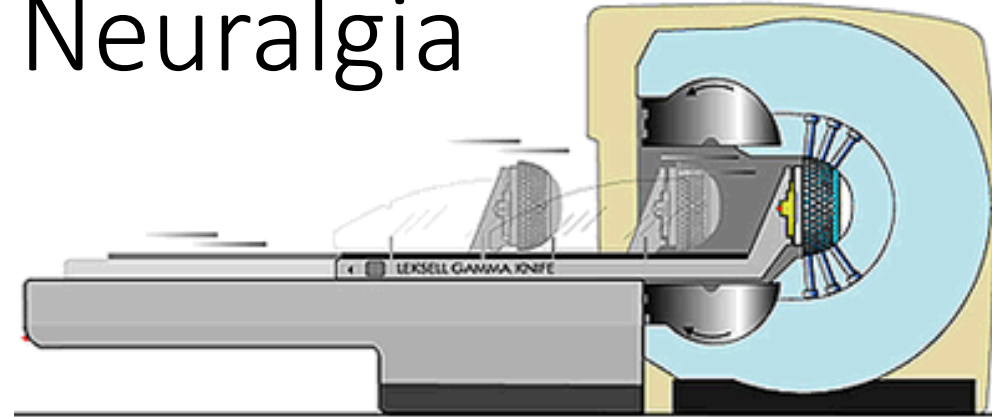
Sheffield Gamma Knife Centre

- Opened 1985 – 3rd centre in world
- Leksell Perfexion Model
 - Automatic positioning
- Cobalt Source
- Collimators: 5mm – 18mm



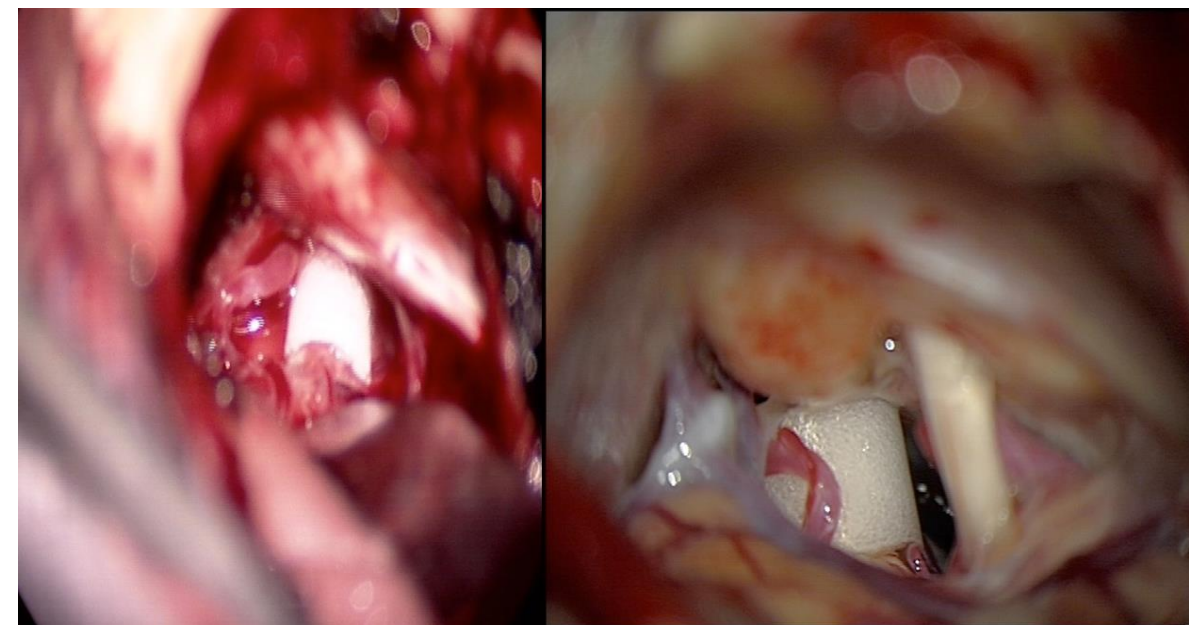
GK for Trigeminal Neuralgia

- Day case procedure
- Under LA
- Max dose 80Gy



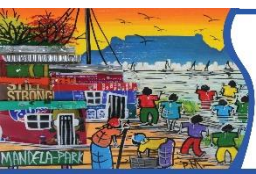
Microvascular Decompression

- Park bench / lateral position
- All cases post 2010 conducted with IOM - BSAER
- 1.5cm diameter circular retrosigmoid craniotomy
- Cylindrical Teflon sheath used to cover the nerve entirely in its cisternal course



Results

	MVD	Literature	STRS	Literature
No of Patients	104		751	
Follow up	5 years		2 years	
Pain free	94.20%	70% - 84.2%	64%	41% - 75.4%
Hearing Loss	4.67%	1.1% - 19.4%	0	
Numbness	14.40%	1.6% - 35%	26%	6% - 25%

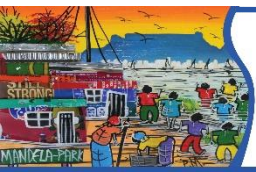


The Issue...

“...And it doesn't hurt or require anesthesia. Treatment takes just one session, and patients can return to normal activities almost immediately.” (<https://www.wakehealth.edu/Treatment/g/Gamma-Knife>)

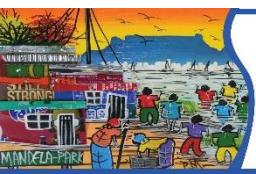
“...does not require any incisions or even a hospital stay...carries less risk than traditional surgery or radiation therapy, ...you will be able to go home the same day as your treatment ”
(<https://www.valleygammaknife.com/gamma-knife-for-trigeminal-neuralgia/>)

“The procedure requires little or no anesthesia, and is performed on an outpatient basis. This procedure provides significant pain control or reduction in approximately 80+% of patients” <https://neurosurgery.ucsf.edu/trigeminal-neuralgia-faq>



Conclusion

- Increasing demand for STRS
- Higher success rate with MVD
- Patient should be carefully counselled
- Involve patient groups in studies to improve understanding



Thank you

Questions?

