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Auckland Hospital

Auckland

Saturday, June 10, 2017

(Room 4)

8:30 - 9:25 WS #98: Management of Common Neurosurgical Problems in General Practice

9:35 - 10:30 WS #110: Management of Common Neurosurgical Problems in General Practice (Repeated)

Neurosurgery Scenarios in General Practice

Patrick Schweder
Neurosurgeon

Auckland Brain and Spine Surgery
Ascot Hospital

Head of Academic Neurosurgery
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Auckland City Hospital

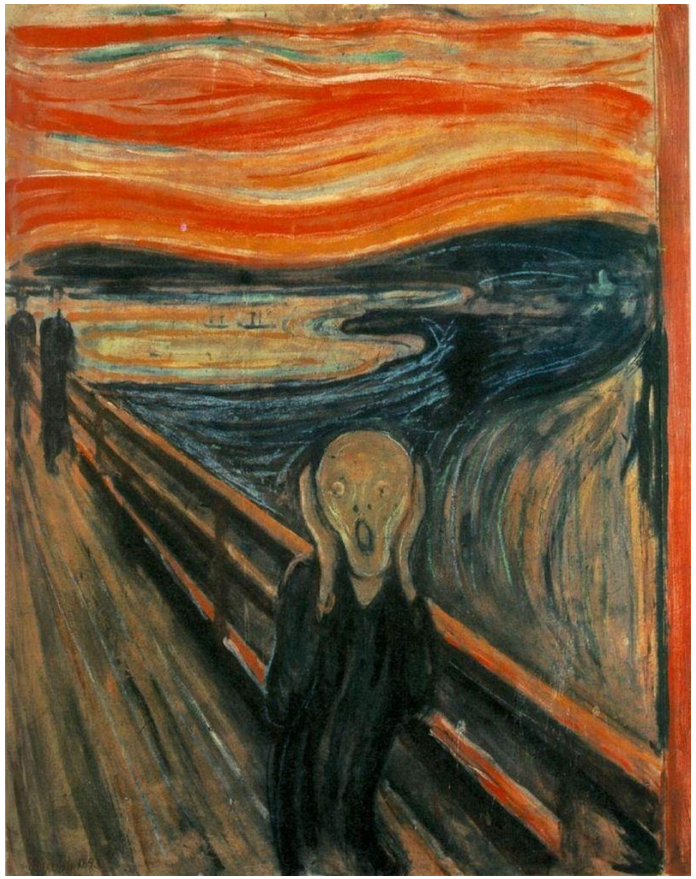
- Any neurosurgical scenarios in your practice..?
- Common areas of neurosurgery...
    - Some hospital
    - Some general practice
- Minimal neurosurgery exposure at Med School

Things to discuss…

- Facial Pain
    - Trigeminal Neuralgia
    - Atypical Facial Pain
- Pain Neurosurgery
    - What can be done…
    - For what types of pain…
- Brain and Spine Tumours
    - Metastasis
    - Primary
- Aneurysms
    - How do I address patient concerns in the clinic…
- Spine problems
    - What minimally invasive options are there
    - New concepts and methods of treatment
    - What can I do for my patients...

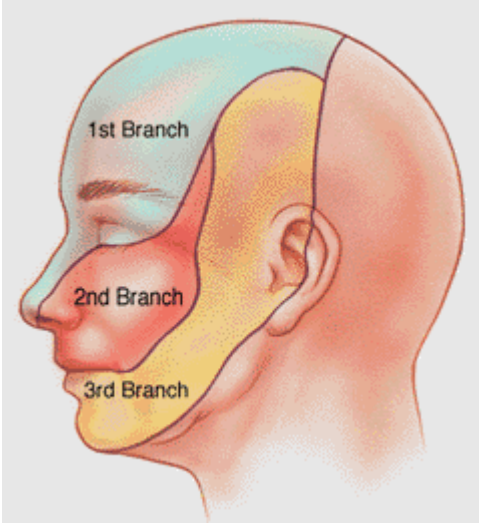
- Facial Pain scenarios in your practice..?
  - Auckland
    - 200 new patients per year?

- Dramatic presentations
- Facial pain.....can anything really be done?



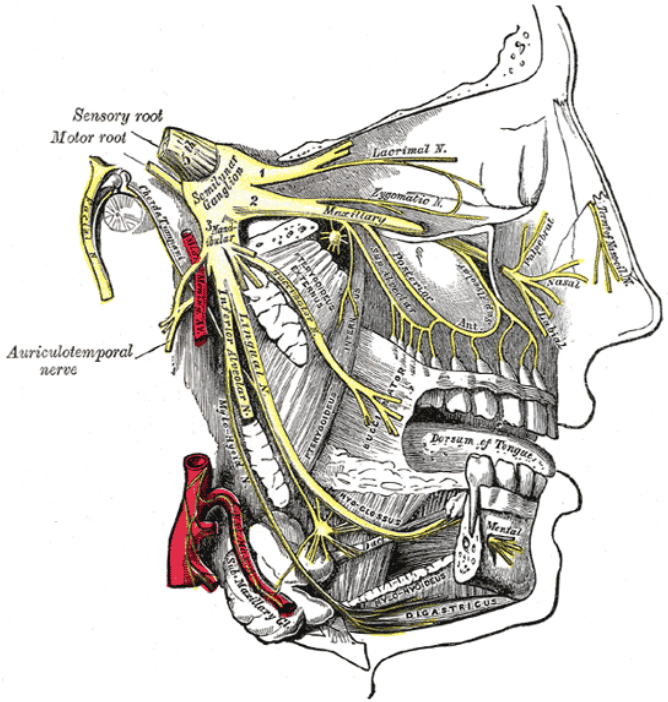
Facial Pain

- How can we manage it….
- Is it easy to diagnose?
- Who makes the diagnosis?



Trigeminal Neuralgia

- What is it?
- What causes it?
  - Common cause
    - Vascular compression
  - Unusual causes
    - tumours
- Am I supposed to know?
    - Investigations…
- Shouldn’t treatment be simple…?



In the GP practice

- Diagnosis in the history
- Examination – usually normal
- If not normal....
    - Potentially an “unusual cause”
    - Probably refer anyway

Pain....so - Pain relief

- What shall we try?
- Diagnostic tools?
  - Carbamazepine
  - Doses?
- Good effect?
- Will it last?
- Side effects...
- Other analgesics?

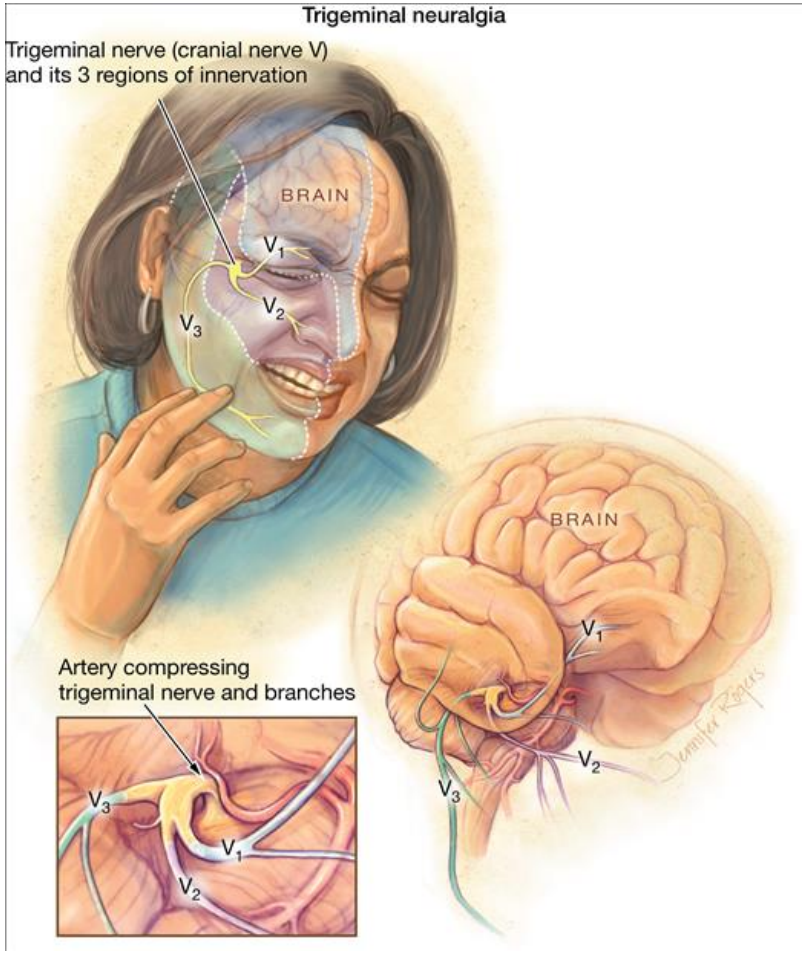
When to refer

- Early!!!!
- Surgical condition
- Surgical options

Why refer

- Cause.....
- Most of the time
  - Vascular compression

- Some of the time
  - Other stuff around the nerve
  - Eg tumours



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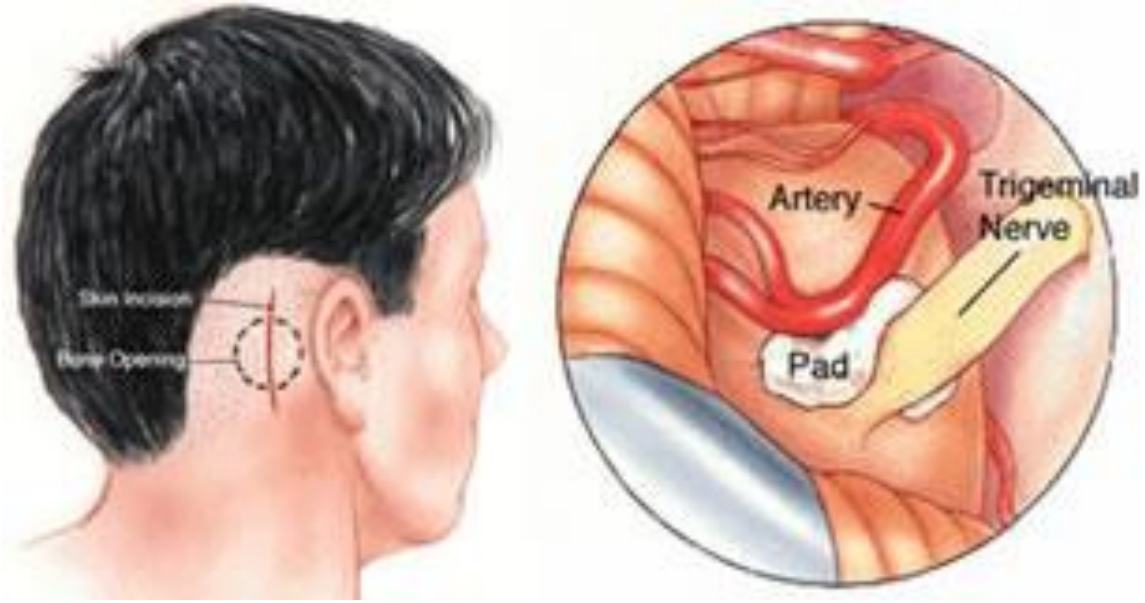
Effective treatment

- Surgical options!
- Medical options?

Microvascular decompression



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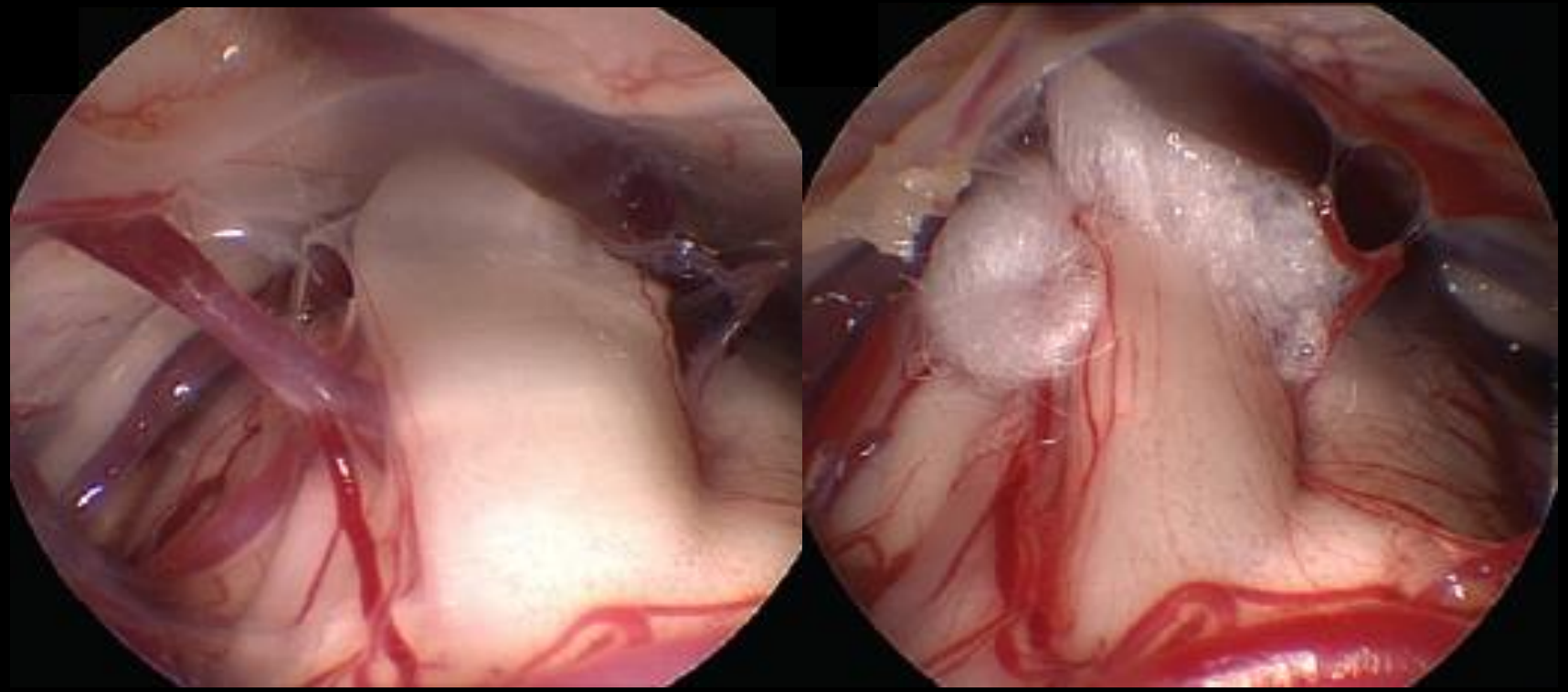
Trigeminal Neuralgia
Facial Pain

- Microvascular decompression

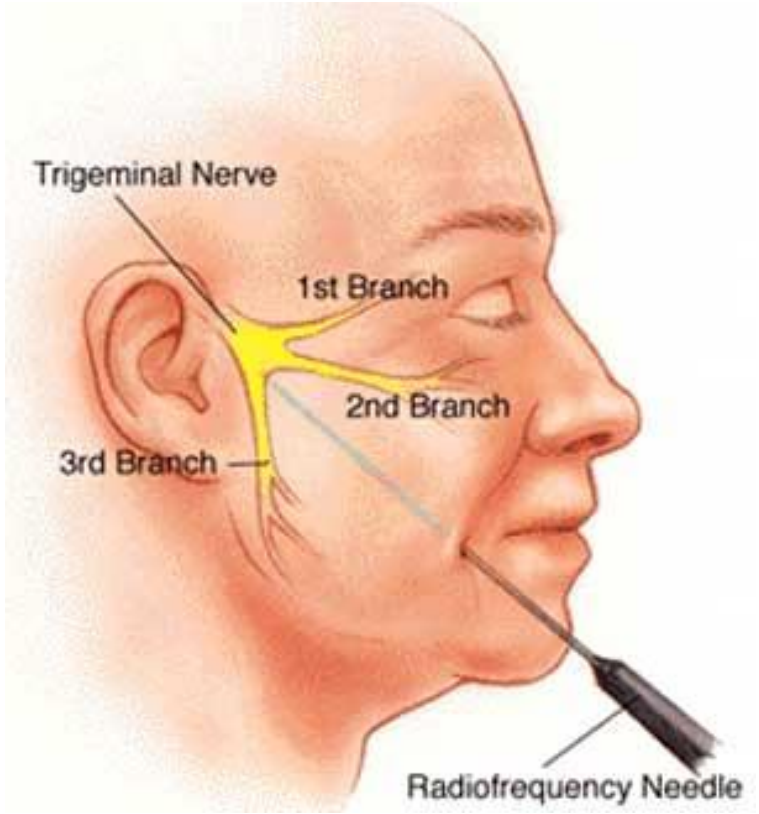
Fully endoscopic microvascular decompression for trigeminal neuralgia: technique review and early outcomes

LEIF-ERIK BOHMAN, M.D., JOHN PIERCE, M.S., JAMES H. STEPHEN, M.D., SUKHMEET SANDHU, B.A., AND JOHN Y. K. LEE, M.D.

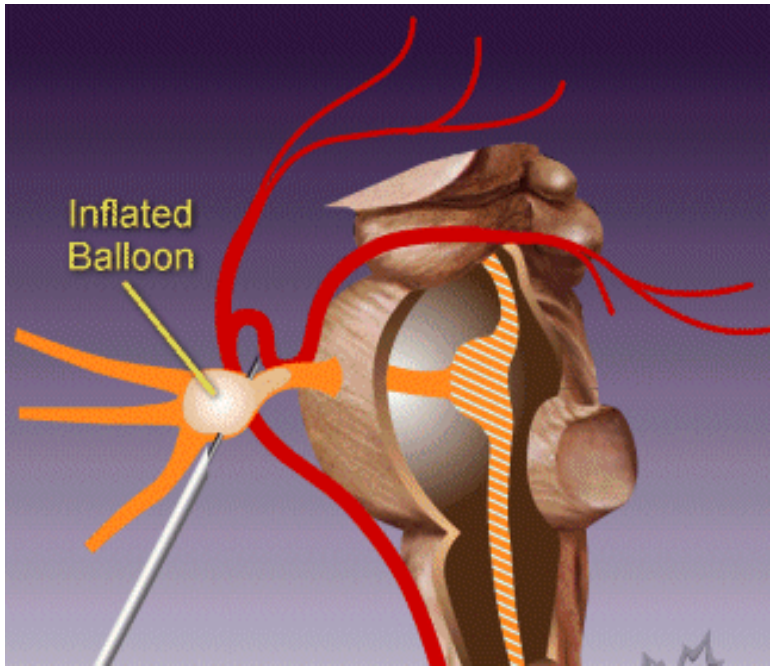
Department of Neurosurgery, University of Pennsylvania, Philadelphia, Pennsylvania



Percutaneous options



neuroanatomy



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What would I say?

- Counsel re options
  - Microvascular decompression
  - Percutaneous ways to modulate the nerve
  - Section
- Back up techniques
    - Nucleus caudalis
    - neurostimulation

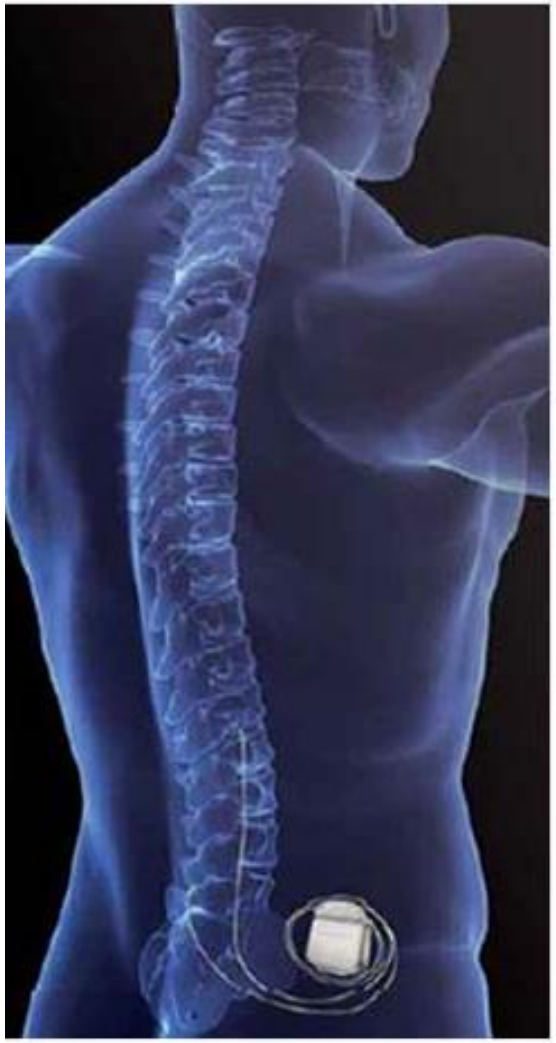
Not trigeminal neuralgia?

- History
  - Doesn’t sound classic
  - Just some bad pain in the face
- Other causes
  - Post infectious
- What options then
- Still consider referring?

What do we have to offer?

- Non operative
- Surgery
    - Microvascular decompression
    - Percutaneous methods
    - Section
- The back up options...

Neuromodulation



Pain

- Chronic pain in your clinic....
- Can we make life easier....

Changing pain pathways

- Neurosurgical Treatment of Pain
- Lesions
  - Peripheral Nerves
  - Spine
    - Cordotomy
    - Myelotomy
  - Brain
- Neuromodulation
    - Spinal Cord Stimulation
    - Peripheral Nerve Stimulation
    - Other Stimulation eg Deep brain stimulation
    - Pain syndromes
    - Targets
- Evidence

The challenge

- Heterogeneous group
  - Patients
  - Symptoms
  - Pathophysiology
- Multiple Choices of Intervention...Stimulation
  - Targets

Other craniofacial pain

- Occipital Neuralgia
- Cervicogenic headache

Occipital Neuralgia

- What is it?
- Diagnosis?
- Options
  - Nothing
  - Medication
  - Injection
- Minimally invasive
  - Neuromodulation/Ablation
  - Root rhizotomy
- Neurostimulation

- Pain
  - ……experienced by the nervous system
- Neurosurgical condition
- Where is the pain generator
- Then there may be some options

Minimally Invasive Ways to Control Pain

- Radiofrequency
  - Ablation
  - Pulsed RF
  - Cooled RF
- Does it work...?
  - Evidence
- Practical scenarios
  - Occipital neuralgia

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Cervicogenic headache

- A bad spine is the cause...
- Not everyone needs an operation
- Medical and Physical Management
- The degenerative spine....
    - Treating the cause...?
- Symptomatic treatment
- The hunt for the pain generator
    - Interventional techniques
    - Radiofrequency modulation
    - Facet joints
    - New pathways

Cancer
The Brain and The Spine
Scenarios in General Practice

Cancer in Neurosurgery

- Primary Brain Tumours
- Cancer
  - Brain Metastases
  - Spine Metastases

- Will I see this in my practice....?

Yes

- Brain tumours
  - Meningioma
    - 100 new patients every year in Auckland
  - Glioma
    - 100 new patients every year in Auckland
- Brain metastases
  - 200 new patients every year in Auckland

Primary Brain tumours

- From the lining and surface
  - Meningioma
    - All about
      - » Location location location
- From the brain substance
  - Glioma
    - All about
      - » Character....aggression

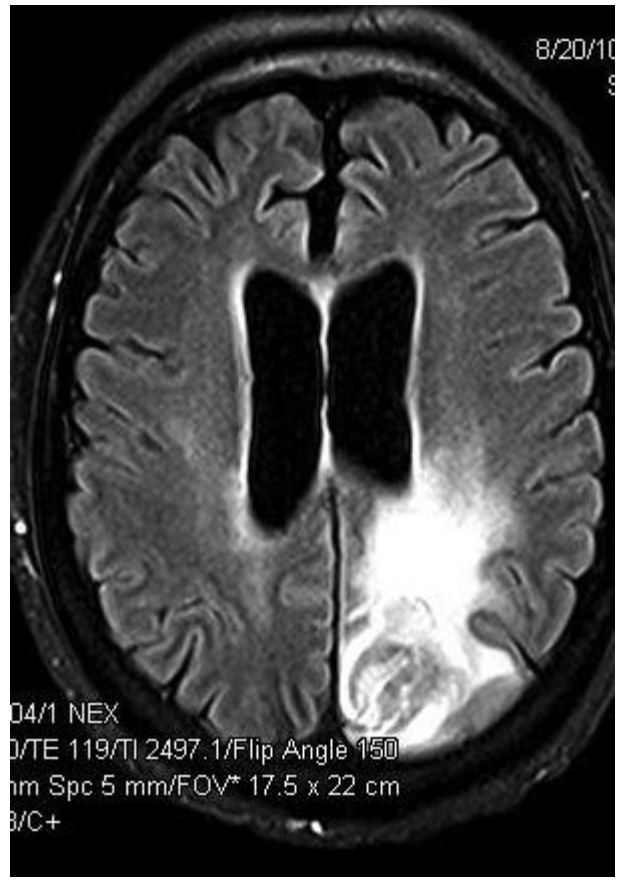
In the GP Office

- First presentation
    - Types of presentation
    - When to refer
    - Degrees of urgency
    - Steroids…
    - Anticonvulsants?
- After surgery
    - Post operative steroids
    - Post op complications
- What next for the patient….?
    - Depends on pathology

Symptoms

Local pressure

- Mass effect
- Depends where tumour is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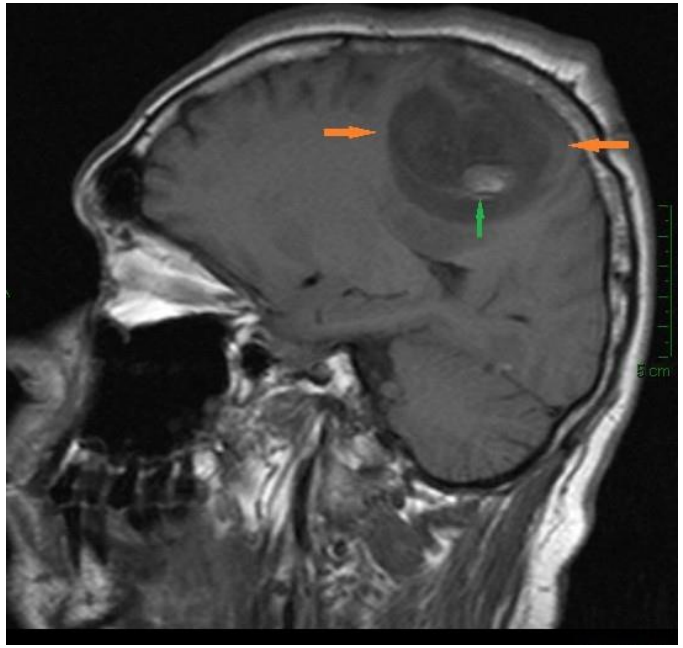

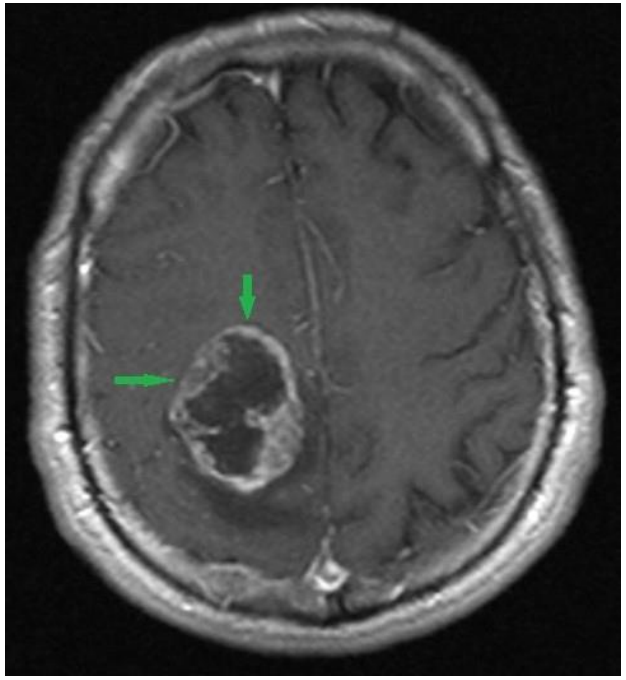

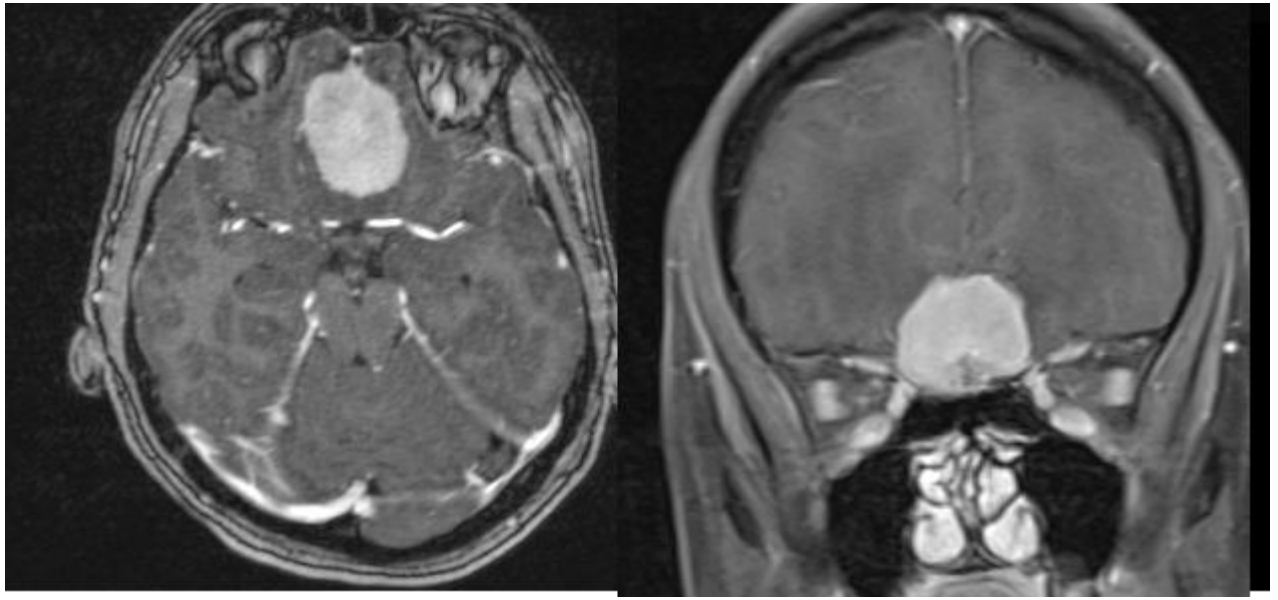

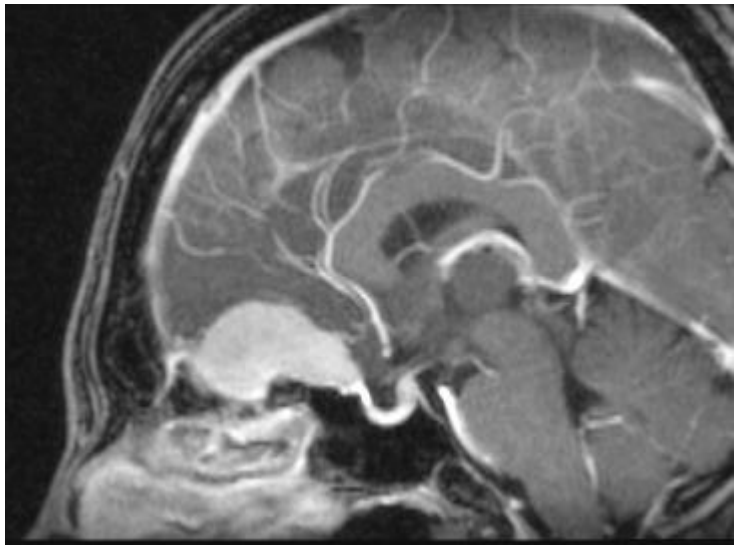

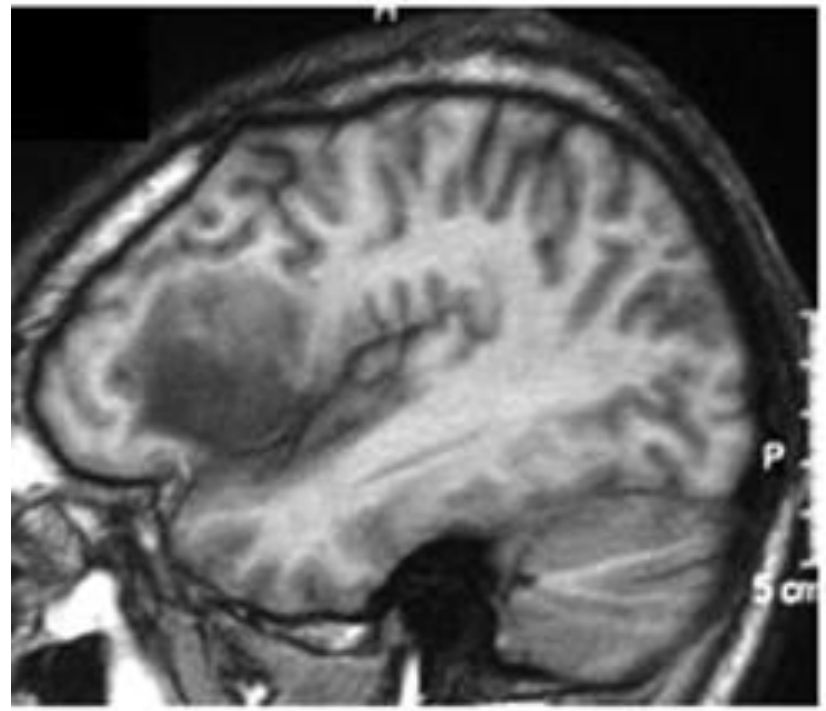
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Worth discussing

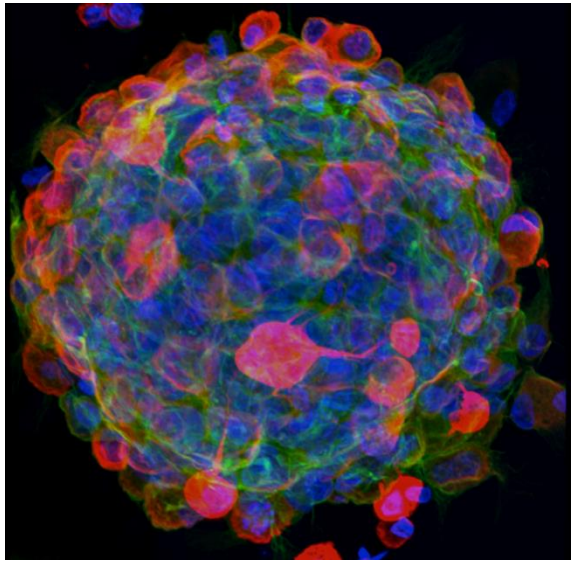
- What will happen next
    - Some more scans
- Meningioma...
    - Options
        - » Nothing - Surveillance
        - » Something - Surgery
- Glioma...
    - Options
        - » Nothing - Surveillance?
        - » Something - Surgery
        - » After surgery treatments

Post-operative in the GP Practice

- Dexamethasone taper
    - …how to wean…
        - » Reduce dose or frequency or both
    - Over 1 week usually
- Patient questions…
    - What's next…
        - Depends on the pathology

What’s next….Glioblastoma

- Recommended therapy
  - Adjuvant Chemotherapy and radiotherapy
  - New things



What's next…..Meningioma

- If gross total resection….
  - Surveillance
  - Regular MRIs
    - » Every year or 2 to 3 years
  - Potential for recurrence
- If subtotal resection….
  - Occasionally
  - Radiotherapy

Brain Metastases

- My patient has …xyz…. Cancer
- Could it go to the brain?
- Is their therapy effective for the brain
- My patient now has a headache
    - when should I be concerned?

Brain Metastasis

- Why is this relevant....?
- Is it a frequent issue?
- Will I see more in my career...?

Systemic control/cure

- Better extracranial disease control
- Blood brain barrier
    - Brain mets
        - » Problem
- Longer survival
    - Brain mets
        - » Problem
- Chemo trials
  - – Exclude brain mets
    - Brain mets
        - » Problem

- New research
- New treatments
- Increasing clinical scenario

New Brain Metastases Treatment Guidelines

Issued by the **American Association of Neurological Surgeons**

& the **Congress of Neurological Surgeons**

- How many lesions....?
- Too many?
- Can something still be done?

- What can I do in the practice
    - Steroids?
    - Dose?

Solitary lesion

- Surgery....
- Followed by radiotherapy
- Class 1 evidence

Multiple lesions

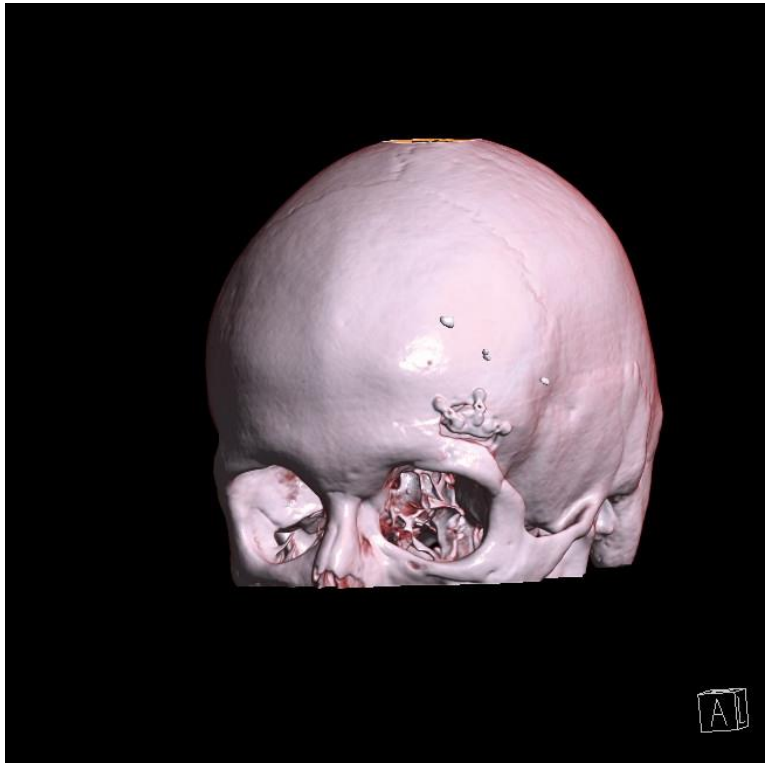
- 2-3 lesions?
    - Surgery
- Many more AND .....1 symptomatic lesion?
    - Surgery
  - Others
    - Radiotherapy

Chemo agents?

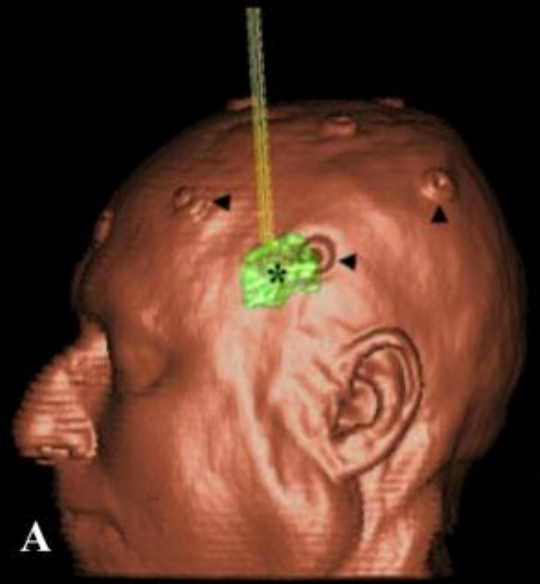
- Ongoing research
- Getting it past the blood-brain-barrier

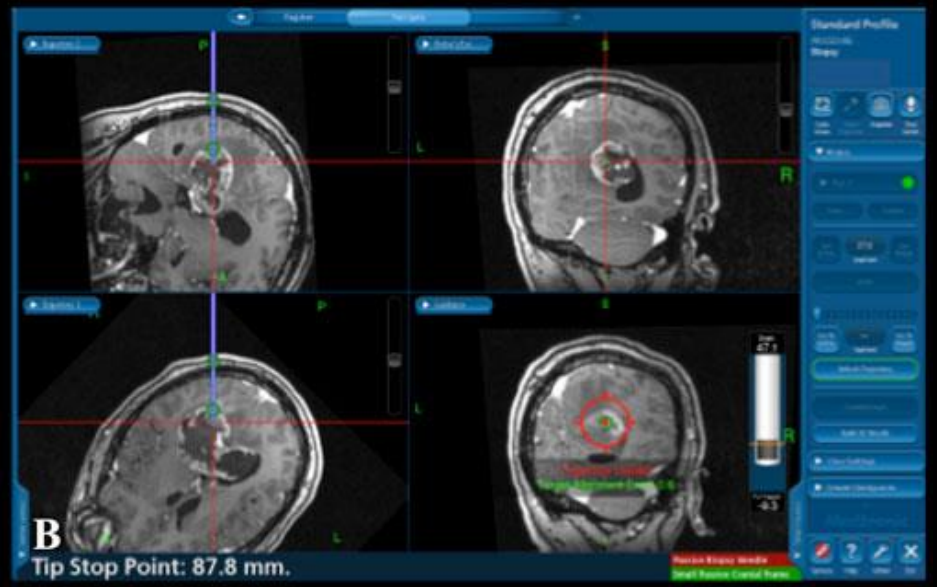
Surgery...is it a big deal

- Minimally invasive neurosurgery
- Recovery time
- Keyhole craniotomies



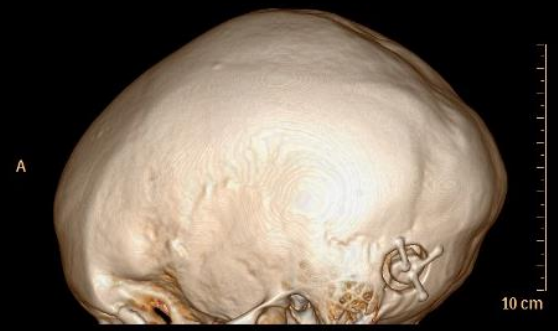
Brain Metastasis Surgery

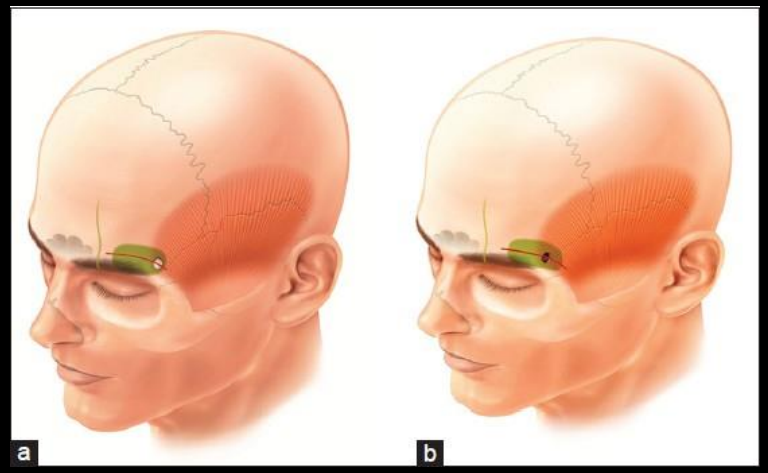




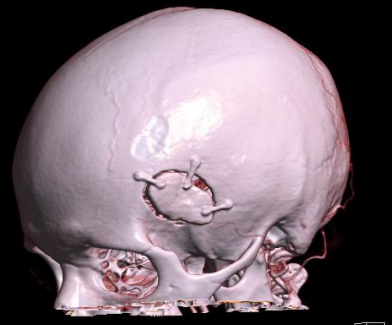
Neuronavigation

Minimally Invasive Cranial Surgery





Minimal Access
Less retraction



New Pathway and Service

- Auckland Brain Metastasis Service
- Multidisciplinary Opinion and Management
- Useful?

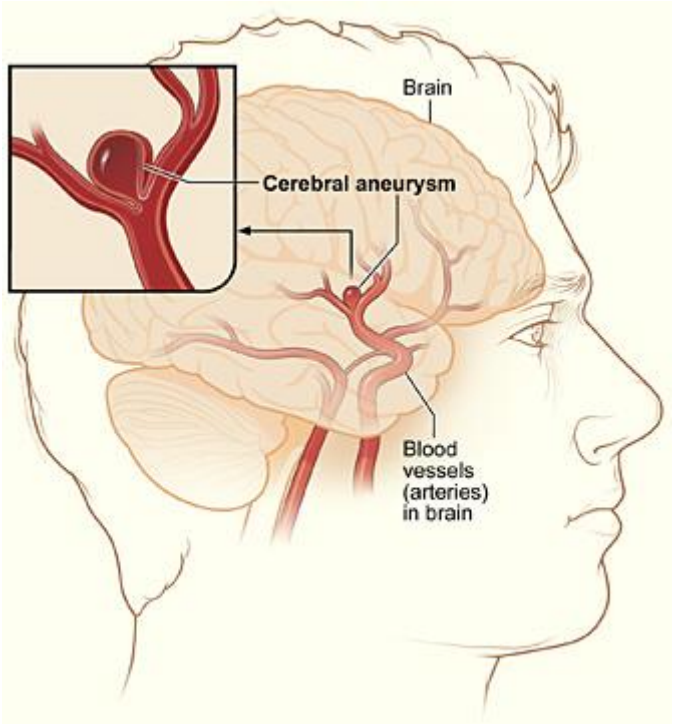
Cancer and the Spine

- My patient has cancer ……
- Terrible back pain
- Terrible nerve related pain
- Now they aren’t walking well
  - Spinal cord compression?
  - When should I be worried

- Pain
  - Radiotherapy
- Instability or compression pain
  - Minimally invasive stabilisation
- Neurological deficit
  - Minimally invasive decompression +/- stabilisation

Aneurysms

- Ticking time-bombs...?



- Aneurysms -What can we say to a patient who is worried about family history of aneurysm rupture? Who should have a scan…? When to treat…?
- The incidental finding....

Scenario

- Found one...or a few?
- Why me....?

Epidemiology

- Incidence difficult to estimate
- Prevalence ca 5%
- Congenital predisposition
- Atherosclerotic/hypertensive

Management Options

- What do we consider...

Treatment options

- Analysis and discussion
- Risk of rupture
    - Mortality and morbidity of SAH
- Treatment mortality and morbidity
- Endovascular and microsurgical

Options

- No treatment
  - Follow-up?
    - Growth?
- Treatment
- Risk of rupture
  - Treatment choices

How can GPs contribute to treatment?

- Smoking
- Blood pressure
- “Check in with your doctor regularly...”
- Should I screen my children?

Concepts in Spine Surgery

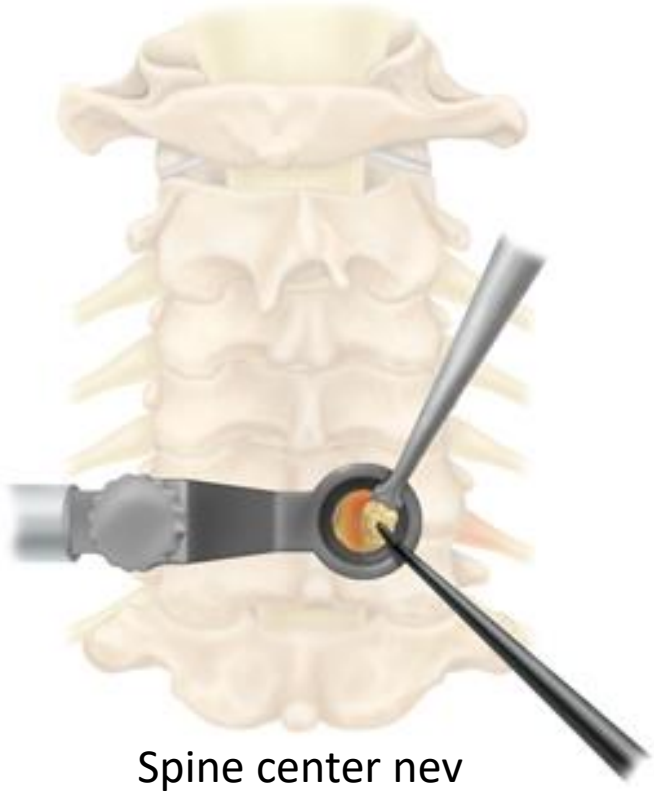
- Not everyone needs an operation
- Medical and Physical Management
- The degenerative spine....
    - Treating the cause...?
- Symptomatic treatment
    - Interventional techniques
    - Radiofrequency modulation

Degenerative Spine

- What can it cause...?
- Neck pain
- Back Pain
- Neural compression
    - Brachalgia/Radicular pain
    - Sciatica
- Examination findings
- Radiology investigation
    - MRI
- The challenge – does it match?
- The next challenge – better ways to do this?

Minimally Invasive Spine Surgery

- Smaller pathways to decompress a nerve
- Percutaneous ways to place hardware for spinal instability



Spine center nev

The neck and the back

- What is the pain generator?
- Reason for failed surgery?
- Radiofrequency
- Intractable chronic pain
- The failed back.....
    - Spinal cord stimulation

Minimally Invasive Ways to Control Pain

- Radiofrequency
  - Ablation
  - Pulsed RF
  - Cooled RF
- How is it done
- Does it work...?
  - Evidence
- Practical scenarios
  - Neck and Back pain
  - Acute/Chronic/Whiplash
  - Give it time
  - Referral and consideration

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Questions....
Thoughts.....