Which of my patients with chronic back pain doesn’t need an MRI?

(This could be a short talk)

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Disclosures

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Objectives

• Compare and contrast MRI with other neural imaging technology.
• Discuss the advantages and limitations of MRI.
• Discuss the impact of the over-use of MRI.
• Discuss the indications for spinal MRI in 2018.
• Know the “Choose Wisely” guidelines for the management of low back pain in Canada.
• Know the appropriate referral pathways for patients with suspected spinal pathology in Manitoba.
Imaging
MRI
Advantages of MRI

• Multi axial imaging
• No radiation
• Familiar anatomical definition
• Better definition of pathological and anatomical structures
Low back pain

- 20-30% adults have LBP at any time
- 75% will have LBP at some time
- 45% have had at least 6 episodes and half of those will have had time off work
- 1.8 million Americans do not work due to LBP
- Biggest source of disability and IOD claims
- Over **12 000** spinal MRI scans in MB/ year ($10-12M)
- Currently generates over **5000 spine consults/yr**

<table>
<thead>
<tr>
<th>WRHA MRIs (Exclude BTHC, Brandon)</th>
<th>2016/2017</th>
<th>2015/2016</th>
<th>2014/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spine MR’s</td>
<td>11,371</td>
<td>10,673</td>
<td>11,609</td>
</tr>
<tr>
<td>Total MR’s</td>
<td>59,269</td>
<td>56,140</td>
<td>55,687</td>
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MRI scans in asymptomatic volunteers:

• 41 “normal” individuals
  • 15 mild degeneration
  • 5 moderate degeneration

• After 5 years
  • 43% had had LBP
  • 17 patients (20 discs) had deteriorated radiologically
  • Progression of morphology did not correlate with symptoms
“MRI wait times growing in Manitoba: report
Patients with private insurance, 'influence' prioritized”

Jane Gerster       By: Jane Gerster
Posted: 04/6/2017

Q – Is wait time to MRI a good surrogate of the quality of healthcare?
But...

- Correlation between lumbar spine MRI findings and clinical signs and symptoms is poor
- Up to 50% of MRI scans are unnecessary.
- MRI lumbar spine accounts for one third of all MRI in some regions.
- Eliminating scans of uncertain value could
  - reduce the harm that accrues from unneeded investigations
  - significant cost savings

Emery D, Shojania K, Forster A, et al. Overuse of MRI. *Jama intern med/vol 173 (no. 9), may 13, 2013*
So who needs imaging

Red Flags – physical exam and history suggestive of serious conditions affecting the spine:

- **Cancer/ Infection**: history, weight loss; iv drugs, fever chills, pain at rest.
- **Spinal Fracture**: trauma, prolonged use of steroids
- **Cauda Equina/ Cord Compression**
Other considerations:

- Leg dominant pain, nerve compromise
- Neurogenic claudication
Which imaging?

- Trauma – (X-Ray), CT
- Other red flags: MRI

- Chronic back pain: please do **not order** X-Rays or CT scans.
- Probably little merit in ordering MRI – the spine surgeons **NO LONGER NEEDS THIS** to see your patient.
https://choosingwiselycanada.org/
Choosing Wisely Canada

• Don’t routinely image patients with low back pain regardless of the duration of symptoms unless: (a) there are clinical reasons to suspect serious underlying pathology (i.e., red flags), or (b) imaging is necessary for the planning and/or execution of a particular evidenced-based therapeutic intervention on a specific spinal condition.
Current wait times
(as of Dec 18, 2017)

• 1815 patients triaged to be seen

• Current \textit{wait 1} = 914 days
• Current \textit{wait 2} = approx 6 months

(Variable per surgeon at present)
Bottleneck 1 = consults in...
Referral pathway to surgeon

- **Emergency**: Spine Surgeon on call via (204)787-2071

- **Less urgent**: Fax to Winnipeg Spine Program Central Intake: (204)783-7356