Back Pain Interventions- Bridging the Gap Between Best Evidence and Clinical Practice

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Evidence Based Medicine

- Large segment of medical practice has not been evaluated by EBM
- WC EBM outcomes may not assess function, RTW, cost
- MDs lack time to ID EBM sources and use in practice, resistance

EBM Sources

- Cochrane Collaboration
  - http://www.cochrane.org/index0.htm
- National Guidelines Clearinghouse
  - www.guideline.gov
- UK Occupational Health LBP Guideline
  - http://www.facoccmed.ac.uk/library/index.jsp?ref=383
- AHCPR (AHQR) LBP 1994
  - www.ahrq.gov

EBM Sources

- Work Loss Data Institute, Official Disability Guidelines, Treatment Guidelines 2005
  - http://www.disabilitydurations.com/index.html
- ACOEM OMPG 2004
  - www.acoem.org
- McKesson-Interqual
  - http://www.interqual.com/home.cfm

Epidural Injections and EBM

- # of subjects
- Symptom duration, recurrence, prior surgery, back vs leg symptoms, definition of radiculopathy
- Technique, fluoro / successful placement, agents, volume, # injections
- Controls, co-interventions, natural history

Epidural Injections and EBM

- Outcomes and timing 13 RCT
  - 1 day-30 mo
  - Pain 13, subjective assessment 2, exam 6, HRQL 3, RTW 1, avoid surg 1
- Efficacy neither proven or disproven
  - Trend short term pain relief
  - Function? (1 positive RTW but non-WC)
  - Avoid surg? (1 positive but non WC)

Epidural Injections and EBM

- How to ID subjects who will benefit?
- Psychosocial issues?
- WC populations?
- Risk benefit?
  - Low complication rate

ESI and Guidelines

- AHCPR 1994: Option for acute radiculopathy if decline surgery
- ACOEM 2004: Possible short-term improved leg pain, no significant long term functional benefit, does not reduce the need for surgery, option in acute to chronic pain transition
- ODG 2006: Option radicular signs, failed conservative care, to improve activity, max 2

ESI Practice Impressions

- Option adjunct to avoid surgery, enhance rehab participation and RTW
  - Radiculopathy, far lateral disc herniation, stenosis
  - Failed conservative care
  - No contraindication
- Caution if prolonged symptoms, narcotic issues
- No repeat if initial no response
- Max 3 injections

Facet/MBB Injections

- Pain in 8-18% chronic LBP?
- Intraarticular
  - Diagnostic and therapeutic?
- Medial branch block
  - Diagnostic only

Facet Injections and EBM

- # of subjects
- Symptom duration, recurrence, prior surgery
- Successful placement, agents, # injections
- Controls, co-interventions, natural history

Facet Injections and EBM

- Outcomes and timing 3 RCT
  - 2 week, up to 6 mo
  - Pain 3, subjective assessment 2, exam 2, HRQL 1, work 1
- Possible small pain or functional gains in only 1 of 3 studies
- Psychosocial issues? WC populations?
- Risk benefit?
  - Complications low
- More studies needed

Facet Injections Guidelines

- AHCPR 1994: Not for acute LBP
- ACOEM 2004: Questionable merit. Acute to chronic?
- ODG 2006: Not recommended

Facet Injection Practice Impressions

- Possible adjunct to enhance rehab participation and RTW in select subject
  - Persistent axial pain 3 months
  - No radiculopathy
  - Failed appropriate conservative care
  - Caution narcotic issues, prolonged out of work

Radiofrequency and EBM

- # of subjects
- Symptom duration, recurrence, prior surgery, definition of facet pain (# injections and % response)
- Technique
- Controls (sham), co-interventions

Radiofrequency and EBM

- Outcomes and timing 3 RCT
  - 1-6 mo
  - Pain 3, HRQL 2
- Efficacy neither proven or disproven
  - Short term pain relief 2/3 but non-WC, no prior surgery
  - Function? (1/2 positive HRQL but non-WC, no prior surgery)

Radiofrequency and EBM

- How to ID subjects who will benefit?
- Psychosocial issues?
- WC populations?
- Post-surgical populations?
- Narcotic populations?
- Risk benefit
  - Low complication rate
- More studies needed

Radiofrequency and Guidelines

- ACOEM 2004: No quality literature for LB (some for neck). Mixed results. Use of diagnostic blocks.
- ODG 2006: Under study. Conflicting. Possible pain efficacy. Use of diagnostic blocks.

Radiofrequency and Clinical Practice

- Cautious selection and use in very select subject

Nucleoplasty and EBM

- Proposed applications
  - Contained disc herniation / axial and radicular
- No published RCTs
- Many exclude psych, WC
- Small decline in intradiscal pressures
  - Depends on degree of DDD

Nucleoplasty Guidelines / Clinical Practice

- Guidelines
  - ACOEM 2004: Not recommended
  - ODG Low Back 2006: Not recommended
- Practice
  - Not recommended
  - More studies needed before use

Artificial Disc FDA IDE

- Strict criteria
- Only studied Charite vs BAK
  - Efficacy of BAK?
  - Small differences in outcomes
  - No PLF or conservative arm
- Success = 25%↓ disability, no device failure, no neuro deterioration
- Narcotics @ 2 yrs 64% AD vs 84% BAK

Artificial Disc FDA IDE

- 39.3% of art disc $\leq$ 5° motion at 2 yrs
- # surgeries per surgeon (experience issue)?
- # Workers compensation patients?
- Low disability rates prior to surgery
- Short duration of follow-up

Artificial Disc and EBM

- No RCT to clarify if better than conservative care or other types of fusion
- Faster rehabilitation?
  - Shorter hospitalization and rehab
- Better return to function?
  - Unclear benefits

Artificial Disc and EBM

- Fewer complications?
  - No pseudoarthrosis
  - No bone graft donor site issues
  - No fusion hardware issues
  - Potential subsidence
  - Potential wear and failure
  - Prob similar rates of complication

Artificial Disc and EBM

- Preserved motion?
  - 39% IDE AD did not preserve motion
  - Adjacent fusion segments may increase ROM
- Less adjacent segment degeneration?
  - Unclear if reduces adjacent segment degeneration in lumbar spine
- Long term outcomes need clarification
  - What if late osteopenia?
  - Role of revisions?
- Potential for poor patient selection

Artificial Disc and Guidelines

- ACOEM 2004, ODG 2006: not recommended

Artificial Disc and Clinical Practice

- More studies needed before endorsement
- Patient education on risks and benefits before surgical opinion

Thank you

Questions?