

# FAILED BACK SURGERY SYNDROME -FBSS

Dr Faiz Noore – MBBS, MM ,FRANZCP,  
FFPMANZCA

- ▶ FBSS -several different conditions characterised by a recurrence of low back pain after spinal surgery.
- ▶ With or without leg pain
- ▶ But pain can persist despite technically well performed surgery – so should it be called post surgical spine syndrome?

NAMING

- ▶ Lumbar spinal pain of unknown origin either persisting despite surgical intervention, or appearing after surgical intervention for spinal pain, originally in the same topographical location”

IASP DEFINITION

- ▶ Frequent
- ▶ Incidence 10-40 %
- ▶ Recurrence of back & leg pain 2 years after discectomy 5-36%
- ▶ Laminectomy -36%
- ▶ Second operation lumbar fusion only 35 % do well

## EPIDEMIOLOGY

- ▶ Preoperative factors
- ▶ Surgery related factors
- ▶ Post operative factors

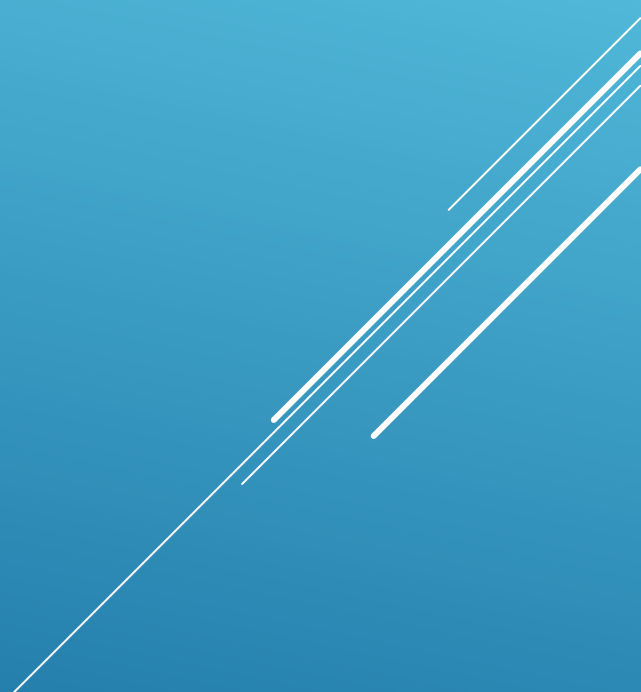
# AETIOLOGY

- ▶ Patient related Factors
- ▶ Disease related factors

# PREOPERATIVE FACTORS

- ▶ Smoking
- ▶ Obesity
- ▶ Low SES
- ▶ Compensation
- ▶ Psychiatric
  - ▶ Anxiety
  - ▶ Depression

# PREOPERATIVE PATIENT RELATED FACTORS



- ▶ Foraminal stenosis patients do poorly compared with disc herniation patients

## PREOPERATIVE DISEASE RELATED FACTORS



- ▶ Wrong diagnosis
  - ▶ Undiagnosed lateral stenosis
  - ▶ Undiagnosed cluneal nerve involvement
- ▶ Wrong procedure
  - ▶ Microdiscectomy for axial pain
  - ▶ Single level decompression for multiple level spondylosis
  - ▶ Correct procedure, but wrong level

SURGERY RELATED FACTORS 1



- ▶ Surgery
  - ▶ Segmental instability
  - ▶ Additional sources of nociception
    - ▶ hardware in wrong position =>nerve compression
    - ▶ Battered spinal nerve

## SURGERY RELATED FACTORS -2

- ▶ Early
  - ▶ Epidural haematoma
  - ▶ Abscess
  - ▶ Psuedomeningocele
  - ▶ Nerve injury

## POSTOPERATIVE FACTORS -1

▶ Later

- ▶ Altered spinal biomechanics=>stress on adjacent spinal segments
- ▶ Altered sagittal balance =>mismatch of pelvic tilt –lumbar lordosis balance =>speed up spinal spondylosis (arthrosis & disc herniation )
- ▶ Altered load on prevertebral and postvertebral spinal column muscles from altered biomechanics =>Muscle tightness, ischemia, inflammation, , stiffness, tiredness
- ▶ Epidural Fibrosis

## POSTOPERATIVE FACTORS -2

- ▶ Unchanged radicular pain => wrong site of Sx or incomplete Sx
- ▶ New onset radicular pain =>
  - ▶ hardware impingement on spinal nerve;
  - ▶ Haematoma
  - ▶ abscess

DIAGNOSIS – HX 1

- ▶ Centralisation of pain on movement => disc pathology
- ▶ Saddle anaesthesia or paraesthesia, faecal incontinence, progressive neurological deficit => cauda equina lesion
- ▶ Red flags
- ▶ Yellow flags - chronicity

DIAGNOSIS – HX-2

A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.

- ▶ Paraspinal tenderness – facet joints
- ▶ SIJ joint tenderness
- ▶ Neurological signs – motor, sensory & reflexes
- ▶ Waddell's signs don't indicate causation but two signs suggest chronicity

## DIAGNOSIS – PHYSICAL EXAM

- ▶ ESR & C- reactive protein – infection
- ▶ Dynamic plain X rays to detect spondylolisthesis
- ▶ Gadolinium enhanced MRI- soft tissue injury, disc herniations, foraminal stenosis & epidural fibrosis;
- ▶ CT myelograms or CT with multiplanar reconstructions – spinal hardware related complications & nerve root compression
- ▶ Discography – isolate specific disc but high false positives
- ▶ Diagnostic injections to isolate nerve roots or facet joints as a source of pain but contextual factors , anatomic variation of innervation

DIAGNOSIS – HELPFUL IX



- ▶ Begins before surgery
  - ▶ Clear discussion about what to expect from Sx
  - ▶ Tell patient that success rate of Sx is disappointing
- ▶ Using the criteria below success rate with Sx is only slightly better after year 1 and nearly the same as non surgical management at year 2
  - ▶ Back pain
  - ▶ Leg pain
  - ▶ Functional limitations
  - ▶ Improved working capacity & ADL

## MANAGEMENT – PRESURGICAL

- ▶ Psychological Modalities
  - ▶ Pain Education
  - ▶ Various forms of CBT eg MBSR & ACT
- ▶ Exercise & physiotherapy
- ▶ Medications
- ▶ Interventional procedures
- ▶ Neuromodulation
- ▶ Repeat Sx

## MANAGEMENT OF ESTABLISHED FBSS



s

1. *Aetiology, evaluation, and treatment of failed back surgery syndrome.* Sebaaly A, et al. 3, 2017, Asian Spine Journal, Vol. 12, pp. 574-585.
2. *Classification of chronic pain - descriptions of chronic pain syndromes and definitions of terms.* AM, Harvey. 2, 1995, Clinical Journal of Pain, Vol. 11, p. 163.
3. *Failed back surgery syndrome: a review article.* Daniell J, Osti O. 2, 2017, Asian Spine Journal, Vol. 12, p. 372 to 379.
4. *Failed back surgery syndrome: current perspectives.* Baber Z, Erdek M. 2016, Journal of pain research, Vol. 9, pp. 979 - 987.
5. *Treatment options for failed back surgery syndrome patients with refractory chronic pain: an evidenced based approach.* Amirdelfan K, et al. 14 S, 2017, Spine, Vol. 42, pp. S 41 - S 52.
6. *Position Paper - Assessment and manifestation of central sensitisation across different neuropathic conditions.* Arendt-Nielsen L, et al. 2018, European Journal of Pain, Vol. 22, pp. 216 - 241.
7. *Diagnosing and treating chronic musculoskeletal pain based on the underlying mechanisms.* D, Clauw. 2015, 2015, Best practice and research clinical rheumatology, Vol. 29, pp. 6-19.
8. *Spinal cord stimulation.* DM, Moore. 8, 2016, BJA Education , Vol. 16, pp. 258-263.
9. *Psychological therapies for the management of chronic pain.* J, Sturgeon. s.l. : Dovepress, 2014, Psychology research and behaviour management, pp. 115-124.
10. *Peripheral and central mechanisms of chronic musculoskeletal pain.* K, Sluka. 2, 2013, Pain management, Vol. 3, pp. 103 - 107.
11. *Mechanisms of exercise induced hyperalgesia.* Koltyn KF, et al. 12, December 2014, The Journal of Pain, Vol. 15, pp. 294 - 304.

## REFERENCES