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## Low Back Pain

- I. Know the structure of the lumbar spine and sacrum, and understand how they normally operate.
  - A. Know the component parts of the lumbar vertebrae and the structure of the intervertebral disks and zygapophysial joints (Bogduk 1997, Chapters 1–4).
  - B. Appreciate the disposition, actions and functions of the paravertebral muscles of the lumbar spine (Bogduk 1997, Chapter 9).
  - C. Know the innervation of the bones, disks, joints, ligaments, muscles, and dura mater of the lumbar spine (Bogduk 1997, Chapter 10).
  - D. Understand how the lumbar spine moves (Bogduk 1997, Chapter 8).
  - E. Understand the function of the sacroiliac joint (Bogduk 1997, Chapter 14).
- II. Appreciate the limitations of evidence concerning the possible causes of acute low back pain, and the controversial status of causes of chronic low back pain. Be able to explain the reason for this (Bogduk 1997, Chapter 15; Nachemson and Jonsson 2000, Chapter 7; Bogduk and McGuirk 2002, Chapters 3, 14).
- III. Understand, and be able to explain, how back pain and somatic referred pain differ from radicular pain, radiculopathy, and sciatica (Merskey and Bogduk 1994). Understand how the investigation and treatment of these conditions differ, and how they are subject to totally different bases of evidence.
- IV. Understand the lack of validity of diagnostic labels commonly applied to acute and chronic low back pain. Be aware of the evidence that refutes instability and radiographic diagnoses such as spondylosis, spondylolisthesis, and congenital anomalies as causes of back pain. Be able to apply diagnostic labels according to recommended criteria (Merskey and Bogduk 1994; Bogduk 2000; Nachemson and Jonsson 2000, Chapter 7; Bogduk and McGuirk 2002, Chapters 3, 14).
- V. Be able to obtain a comprehensive history of low back pain. Appreciate the significance and utility of history in the assessment of patients with low back pain (Nachemson and Jonsson 2000, Chapter 9; Bogduk and McGuirk 2002, Chapters 6 and 15).
- VI. Appreciate the lack of reliability and validity of physical examination in the assessment of patients with low back pain (Nachemson and Jonsson 2000, Chapter 9; Bogduk and McGuirk 2002, Chapter 7).
- VII. Be able to perform a valid assessment of psychosocial factors pertinent to the management of low back pain (Waddell et al. 1980, 1993; Main et al. 1992, 1998; Fishbain et al. 1995, 1999; Keefe et al. 1999).
- VIII. Appreciate the lack of validity of conventional medical imaging in the assessment of low back pain (Bogduk and McGuirk 2002, Chapter 8).
- IX. Understand the rationale for invasive tests such as diagnostic joint blocks and diskography for the investigation of low back pain, and be aware of both the evidence for these procedures and the basis for controversies concerning them (Nachemson and Jonsson 2000, Chapter 9; Bogduk and McGuirk 2002, Chapters 19, 20).
- X. Understand the natural history of acute low back pain back pain (Nachemson and Jonsson 2000, Chapter 8; Bogduk and McGuirk 2002, Chapter 4).

- XI. Appreciate the differences between, and the clinical significance and utility of etiological risk factors and prognostic risk factors for low back pain (Nachemson and Jonsson 2000, Chapters 2, 4; Bogduk and McGuirk 2002, Chapter 5).
- XII. Understand the significance of psychosocial and occupational factors associated with complaints of low back pain and its chronicity (Nachemson and Jonsson 2000, Chapters 3, 5).
- XIII. Appreciate the lack of any proven or demonstrated physiological basis for commonly used interventions for low back pain (Bogduk and Mercer 1995).
- XIV. Be aware of the cardinal evidence for the efficacy, or lack thereof, of interventions commonly used for acute low back pain and for chronic low back pain (Indahl et al. 1995, 1998; Turner et al. 1995; Loisel et al. 1997; Waddell et al. 1997; Cherkin et al. 1998; van Tulder et al. 1997, 1999, 2000a, 2000b; Morley et al. 1999; Nachemson and Johnson 2000, Chapters 11, 12; Bogduk and McGuirk 2002, Chapters 11, 12, 17, 18, 21, 22; Guzman et al. 2001; Nelemans et al, 2001; McGuirk et al. 2001), such as:
  - A. Bed rest
  - B. Staying active
  - C. Drugs
  - D. Exercises
  - E. Manual therapy
  - F. Acupuncture
  - G. Belts and corsets
  - H. Traction
  - I. TENS
  - J. Massage
  - K. Biofeedback
  - L. Hydrotherapy
  - M. Back school
  - N. Patient education
  - O. Behavioral therapy
  - P. Multidisciplinary therapy
  - Q. Functional restoration
  - R. Workplace intervention
  - S. Injections, including:
    - 1. Epidural steroids
    - 2. Prolotherapy
    - 3. Trigger point injections
    - 4. Botulinum toxin
  - T. Intra-articular steroids
  - U. Spinal cord stimulation
  - V. Intraspinal opioids

- XV. Understand the reasons for the limited efficacy of surgical treatment of low back pain (Turner et al. 1992; Gibson et al. 1999; Nachemson and Jonsson 2000, Chapter 13; Bogduk and McGuirk 2002, Chapters 17, 21), in terms of:
- A. Valid and non-valid indications
  - B. Appropriate and inappropriate procedures
  - C. Complications and side effects
- XVI. Be aware of the evidence concerning the rationale and efficacy of medial branch neurotomy and intradiskal therapies for low back pain (Bogduk and McGuirk 2002, Chapter 21). XVII. Understand the utility and limitations of multidisciplinary therapy for chronic low back pain (Morley et al. 1999; Guzman et al. 2001; Bogduk and McGuirk 2002, Chapter 18).
- A. Ensure the patient has a clear understanding of the reason(s) for any diagnostic test or procedure and the likely benefit to be derived. Where there is no evidence base to indicate likely benefit, the patient should be made aware of this.
  - B. Be aware that the outcome of any treatment should be assessed by more than one method if appropriate.

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