



Sick Call Screener Course

Musculoskeletal System – Neck and Spine

(2.8)

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Relevant, Responsive, Requested

2.8-2-1



Enabling Objectives

- 1.46 Utilize the knowledge of musculoskeletal system anatomy while assessing a patient with a musculoskeletal complaint
- 1.47 Utilize the knowledge of musculoskeletal system physiology while assessing a patient with a musculoskeletal complaint
- 1.48 Obtain history from patient with common orthopedic disorders



Enabling Objectives (Cont.)

- 1.49 Perform an orthopedic examination
- 1.50 State signs and symptoms of common orthopedic disorders
- 1.51 State treatments for common orthopedic disorders
- 1.16 State Red Flag criteria



Introduction

- We could not survive without bones
- Forms the framework of the body
- Crucial for the Corpsman's tool box
- Bread and butter of what we see and treat on a daily basis.



Vertebral Column

- Bone and connective tissue
- Functions
- Number of vertebrae
 - Early development
 - Adult
- Normal curves

(From Principles of Anatomy and Physiology, 14th Ed.)

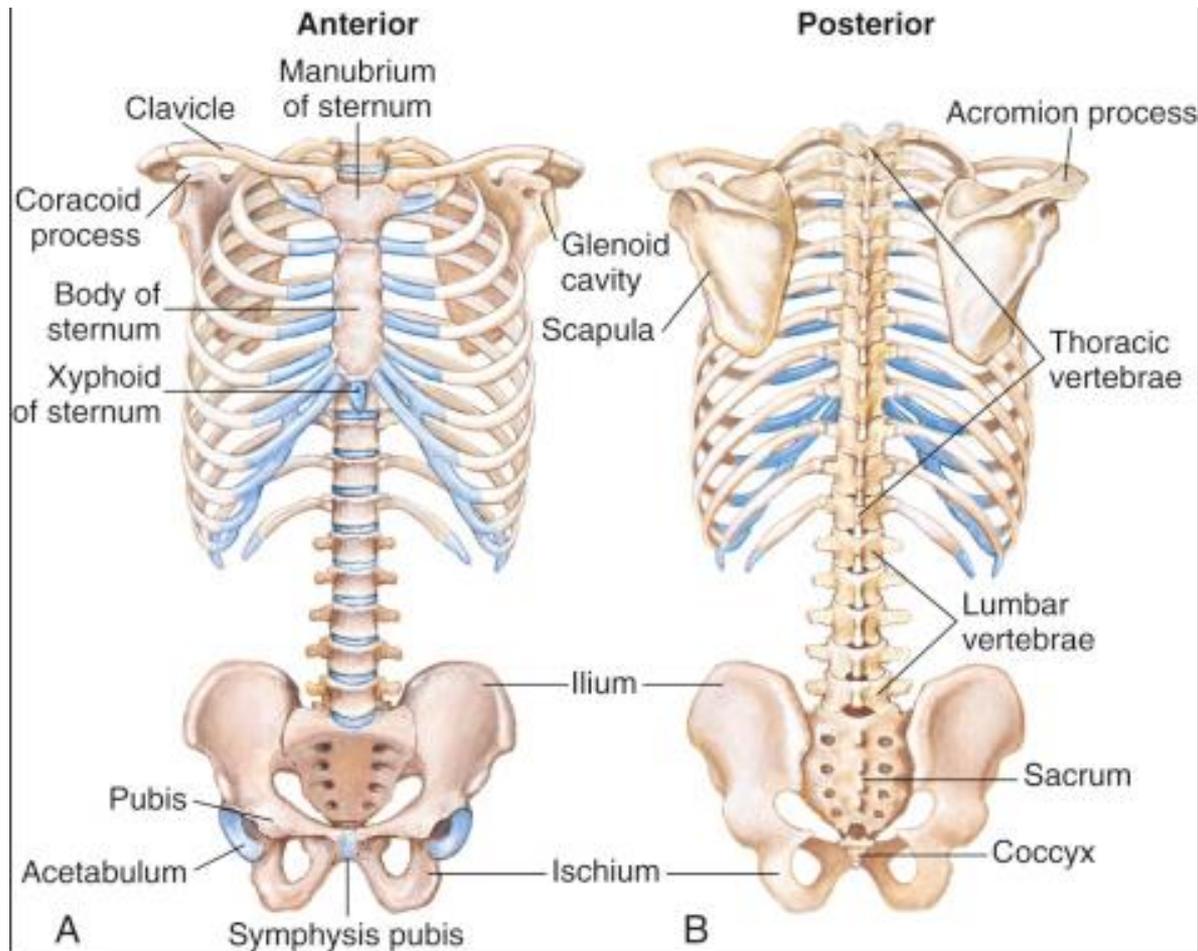
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Vertebral Column (Cont.)



(Seidel's Guide to Physical Examination 9th Ed., www.clinicalkey.com)

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2.8-2-6



Vertebral Column (Cont.)

- Intervertebral Discs
 - Fibrocartilage
 - Hyaline cartilage
 - Under compression
 - Avascular
 - Stretching exercises

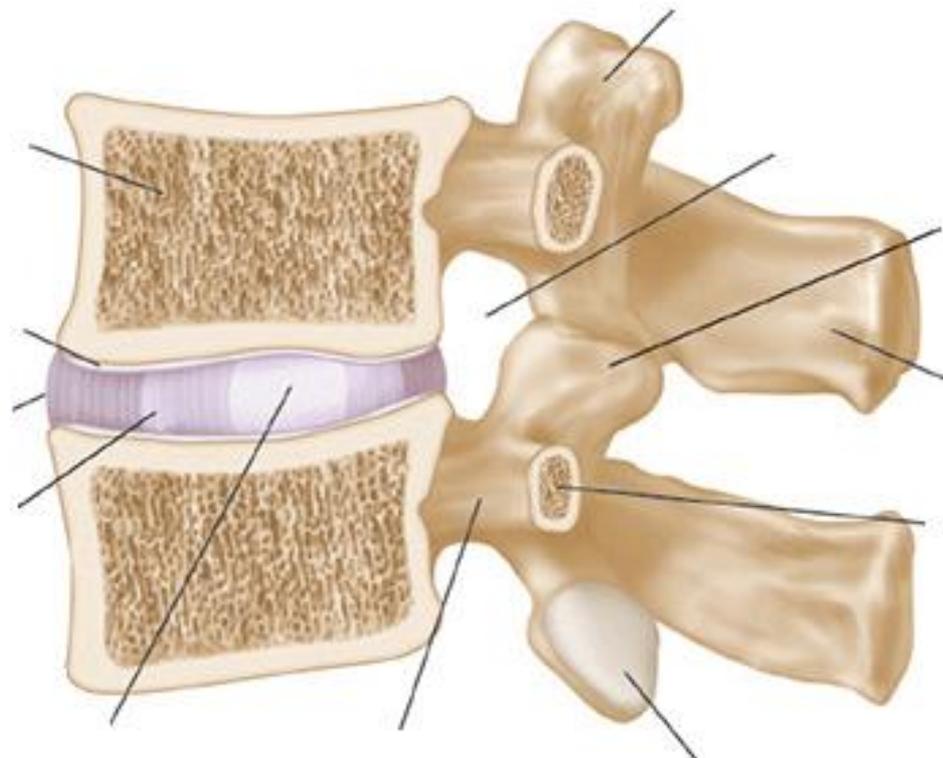


(From Essential Evidence Plus & AHFS DI Essentials, www.statref.com)



Vertebral Column (Cont.)

- Parts of a typical vertebra
 - Vertebral Body
 - Vertebral Arch
 - Processes

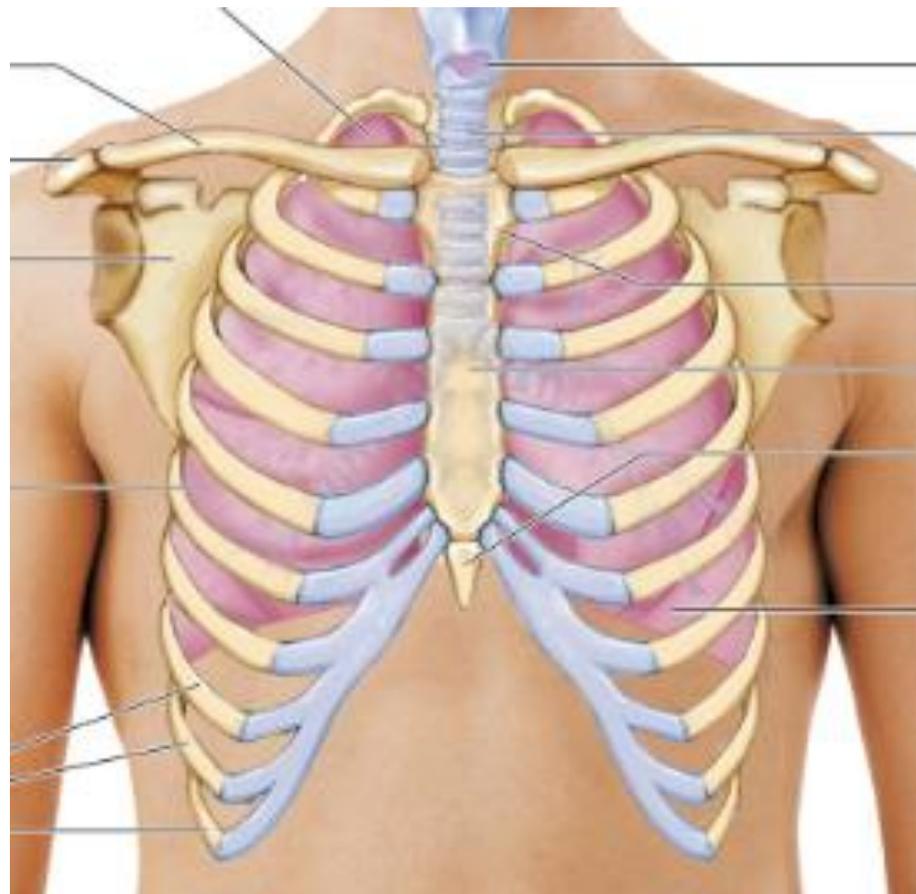


(From AAOS Comprehensive Orthopaedic Review, 2nd Ed., 2014, www.statref.com)



Thorax

- Thoracic cage
- Costal cartilages
- Protection

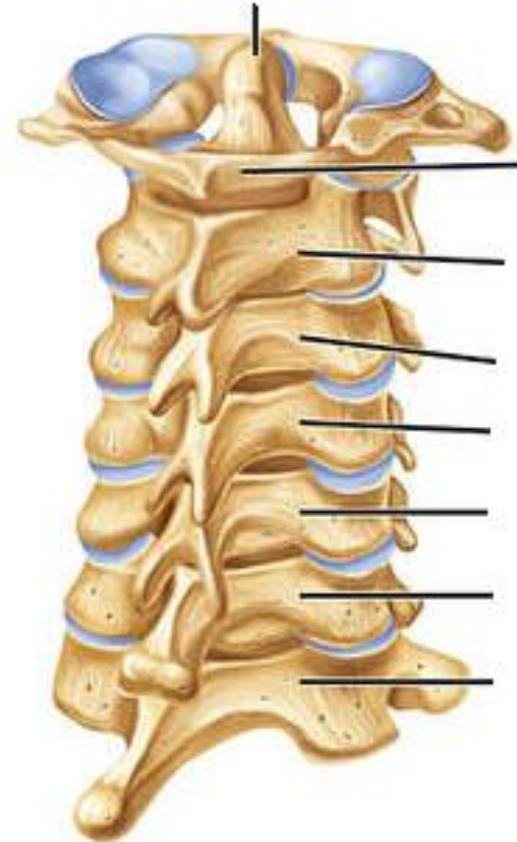


(From Critical Care Nursing 8th Ed., 2018, www.clinicalkey.com)



Cervical Vertebrae

- General Information
- The Atlas - C1
- Vertebra C2
- Vertebrae C3-C6
- Vertebrae C7

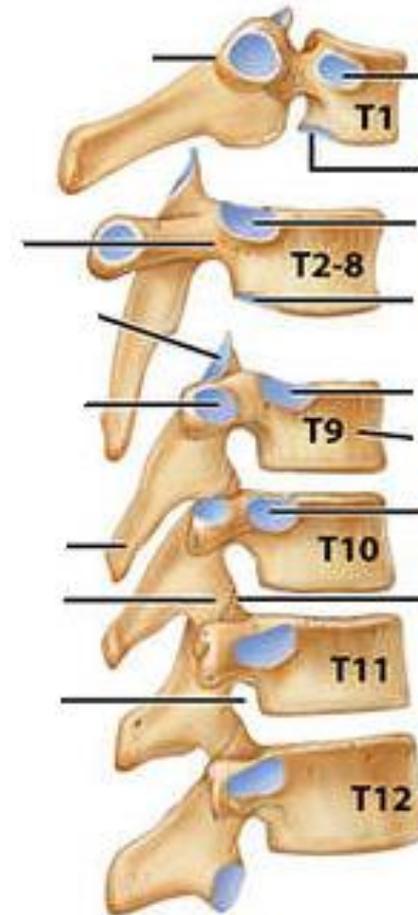


(From Essential Evidence Plus & AHFS DI Essentials, www.statref.com)



Thoracic Vertebrae

- Larger and stronger
- Spinous processes
- Identified by costal facets
- Transverse processes

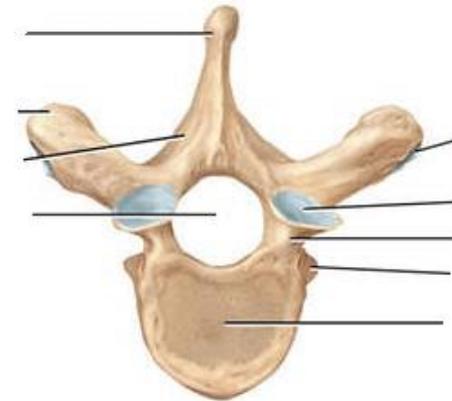


(From Essential Evidence Plus & AHFS DI Essentials, www.statref.com)

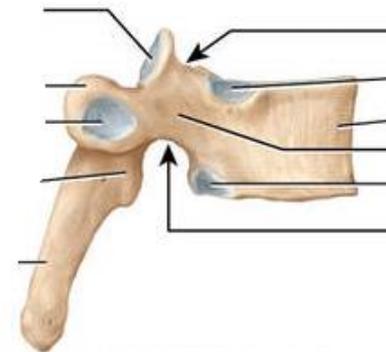


Thoracic Vertebrae (Cont.)

- Articular surfaces
- Facet and Demifacet
- Superior and Inferior Demifacet
- Articulation and movement



(b) Superior view



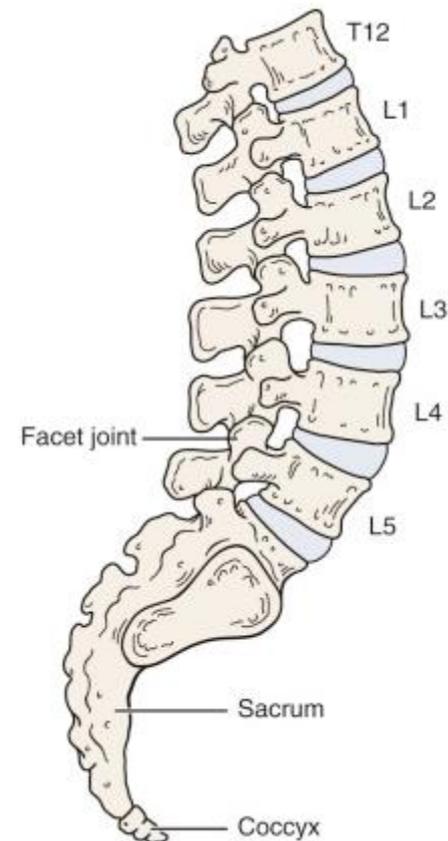
(c) Right lateral view

(From Essential Evidence Plus & AHFS DI Essentials, www.statref.com)



Lumbar Vertebrae

- Largest and strongest
- Superior articular processes
- Spinous processes

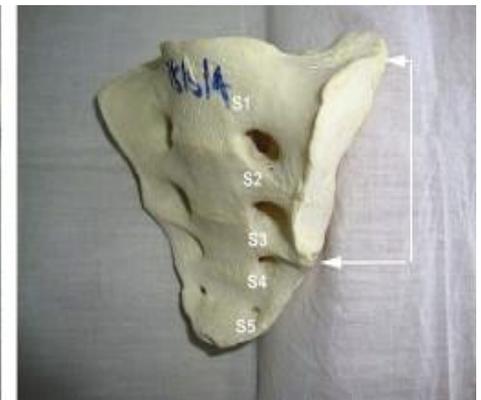
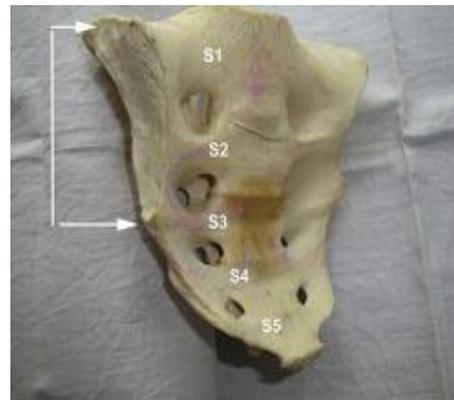


(From Orthopedic Physical Assessment, 6th Ed., 2014, www.clinicalkey.com)



Sacrum

- Triangular bone
- Female Vs. Male Sacrum
- Position and portion names



(Spine Journal, The.Mahato, Niladri Kumar, MBBS, MS, DNB: Clinicalkey)

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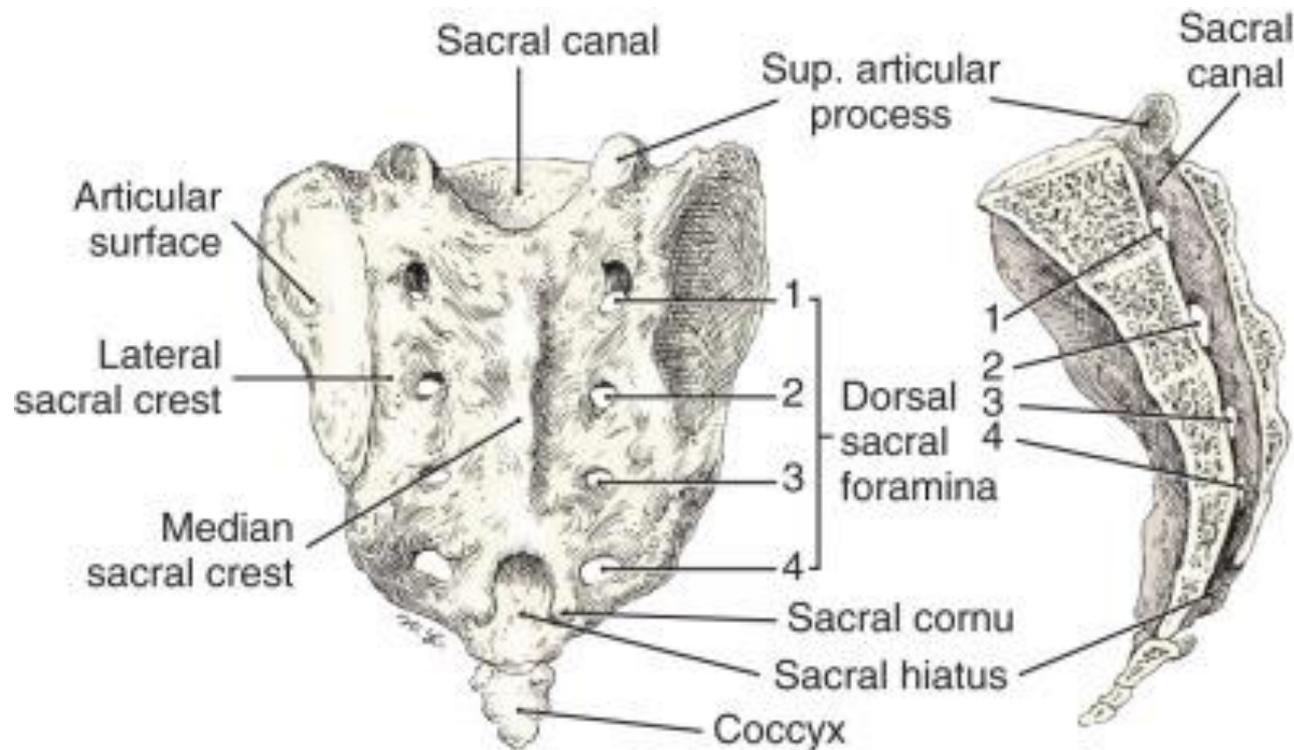
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Coccyx

- Triangular
- Formed by fusion
- Coccygeal Cornua
- Transverse processes

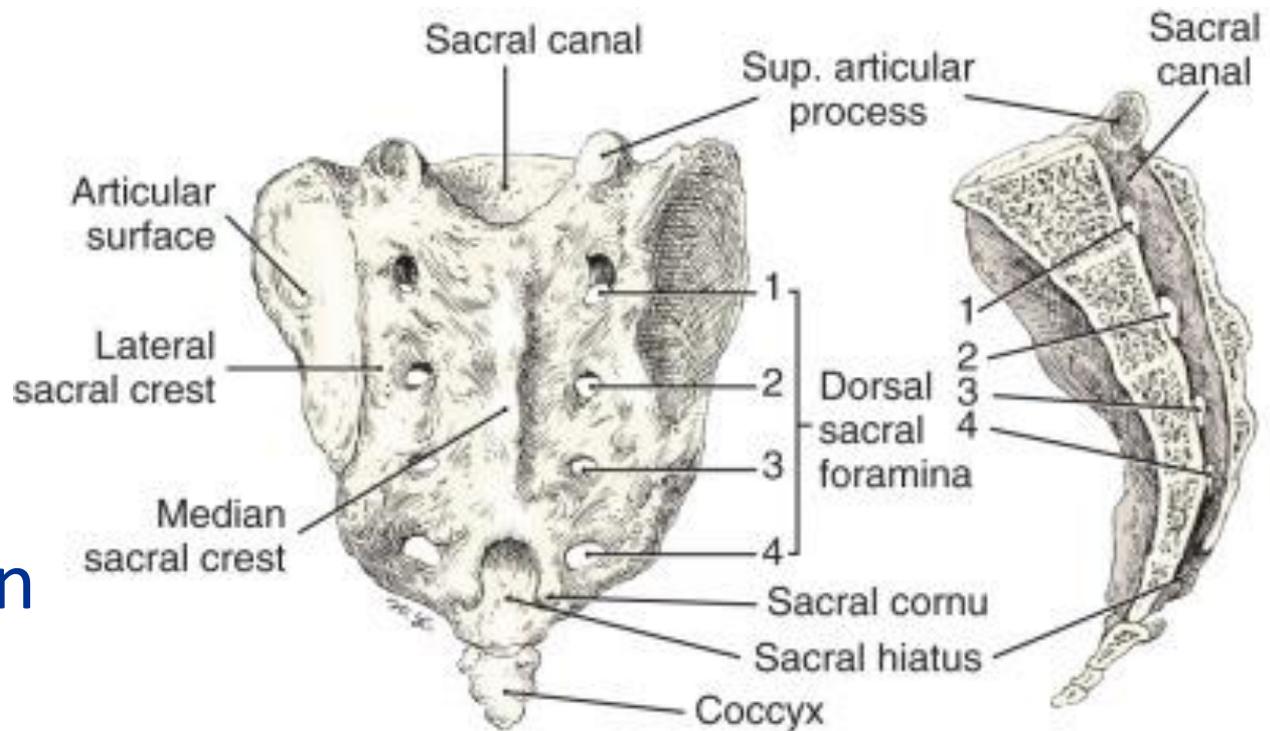


(From Nurse Anesthesia 6th ed., Figure 49.3, www.clinicalkey.com)



Coccyx (Cont.)

- Articulates superiorly with apex of sacrum
- Female Vs. Male position



(From Nurse Anesthesia 6th ed., Figure 49.3, www.clinicalkey.com)



Obtain a History

- Subjective
 - Chief Complaint
 - HPI
 - Joint Symptoms
 - Muscular Symptoms
 - Skeletal Symptoms
 - Injury
 - Back Pain



(Seidel's Guide to Physical Examination 9th Ed., www.clinicalkey.com)

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2.8-2-17



Obtain a History (Cont.)

- Subjective (Cont.)
 - Past Medical History
 - Family History
 - Personal & Social History



(Seidel's Guide to Physical Examination 9th Ed., www.clinicalkey.com)

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2.8-2-18



Musculoskeletal Exam

- Inspection
- Palpation



(All Photos from: Seidel's Guide to Physical Examination 9th Ed., www.clinicalkey.com)

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2.8-2-19



Musculoskeletal Exam (Cont.)

- Range of Motion & Muscle Tone
- Muscle Strength



(Seidel's Guide to Physical Examination 9th Ed., www.clinicalkey.com)

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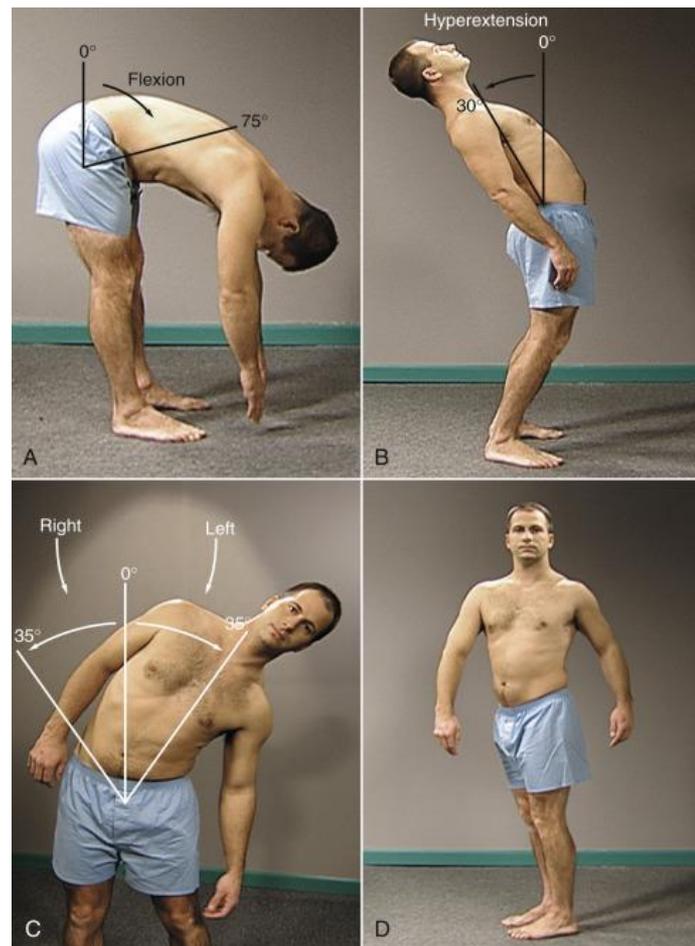
Relevant, Responsive, Requested

2.8-2-20



Spine Exam

- Inspect
- Palpate
- Evaluate ROM
- Perform movements



(Seidel's Guide to Physical Examination 9th Ed., www.clinicalkey.com)



Spine Exam (Cont.)

- Thoracic and Lumbar Spine
- Lower Spine Assessment



(Seidel's Guide to Physical Examination 9th Ed., www.clinicalkey.com)

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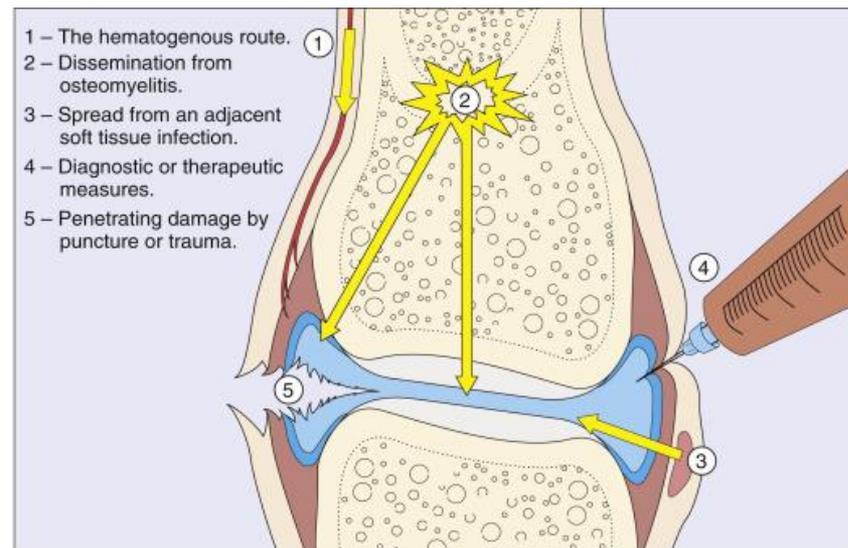
Relevant, Responsive, Requested

2.8-2-22



Septic Arthritis

- Definition
- Synonyms
- Physical Findings & Clinical Presentation



(Ferri's Clinical Advisor 2018., www.clinicalkey.com)



Septic Arthritis (Cont.)

- Differential Diagnosis
- Workup
- Laboratory Tests



(Ferri's Clinical Advisor 2018., www.clinicalkey.com)

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Relevant, Responsive, Requested

2.8-2-24



Septic Arthritis (Cont.)

- Imaging Studies
- Treatment
 - Nonpharmacologic Therapy
 - Acute General Rx



STAT!Ref: Clinical Checklist, Lab Advisor & Drugpoints System, <https://online.statref.com/>

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Relevant, Responsive, Requested

2.8-2-25



Compartment Syndrome

- Definition
- Pathophysiology
- Physical Findings & Clinical Presentation



(Ferri's Clinical Advisor 2018., www.clinicalkey.com)



Compartment Syndrome (Cont.)

- Diagnosis
- Differential Diagnosis
- Laboratory Tests
- Imaging Studies



(Ferri's Clinical Advisor 2018., www.clinicalkey.com)

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Relevant, Responsive, Requested

2.8-2-27



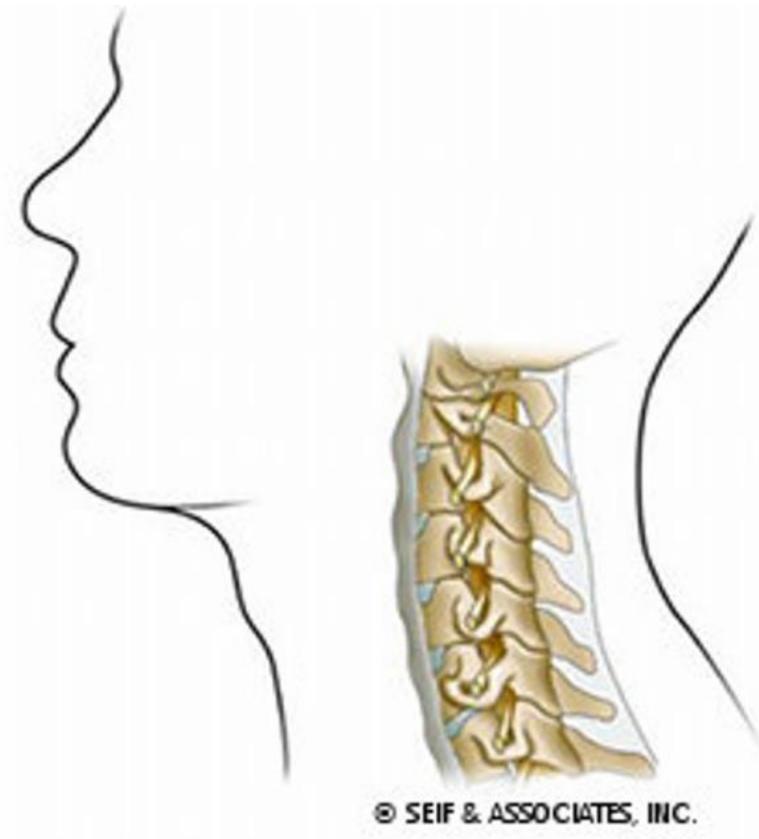
Compartment Syndrome (Cont.)

- Treatment
 - Acute General Rx
 - Chronic General Rx
- Disposition
- Indications for Referral



Cervical Strain

- Definition
- Synonyms
- Clinical Symptoms



(Cervical Sprain, Elsevier Interactive Patient Education, www.clinicalkey.com)

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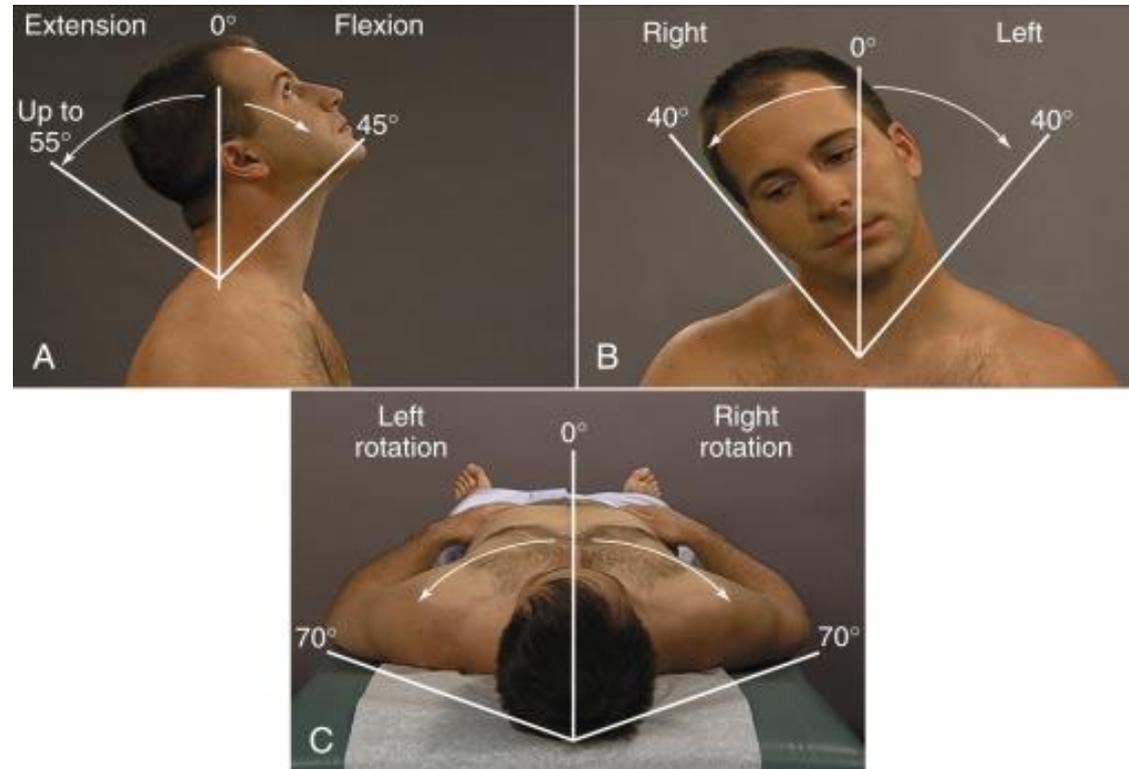
Relevant, Responsive, Requested

2.8-2-29



Cervical Strain (Cont.)

- Physical Examination
- Diagnostic Tests
- Differential Diagnosis
- Adverse Outcomes of the Disease



(Seidel's Guide to Physical Examination 9th Ed., www.clinicalkey.com)



Cervical Strain (Cont.)

- Treatment
- Rehabilitation Prescription
- Adverse Outcomes of Treatment
- Referral Decisions/Red Flags



STAT!Ref: Clinical Checklist, Lab Advisor & Drugpoints System, <https://online.statref.com/>

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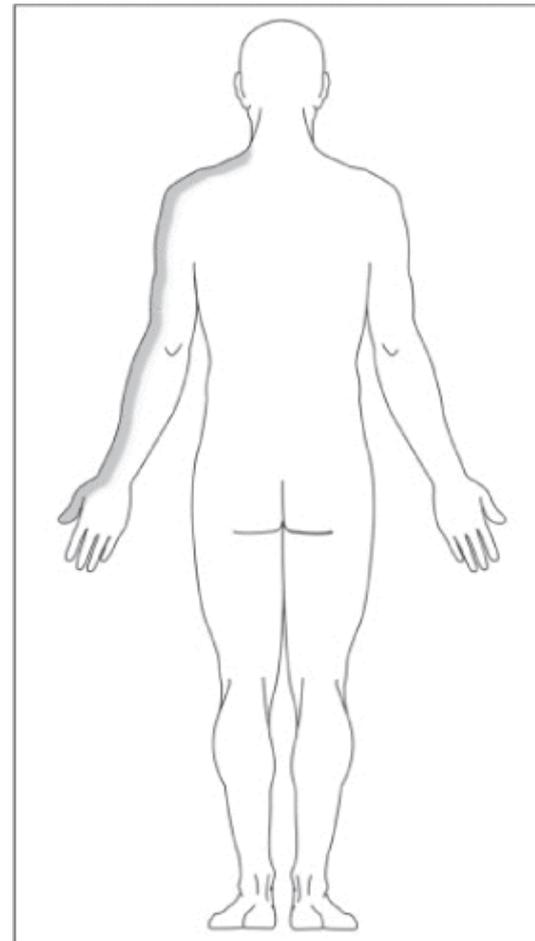
Relevant, Responsive, Requested

2.8-2-31



Cervical Radiculopathy

- Definition
- Synonyms
- Clinical Symptoms



STAT!Ref: Essentials of Musculoskeletal Care 5th Ed., <https://online.statref.com/>

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Relevant, Responsive, Requested

2.8-2-32



Cervical Radiculopathy (Cont.)

- Physical Examination
- Diagnostic Tests
- Differential Diagnosis
- Adverse Outcomes of the Disease



Cervical Radiculopathy (Cont.)

- Treatment
- Adverse Outcomes of Treatment
- Referral Decisions/Red Flags



STAT!Ref: Clinical Checklist, Lab Advisor & Drugpoints System, <https://online.statref.com/>

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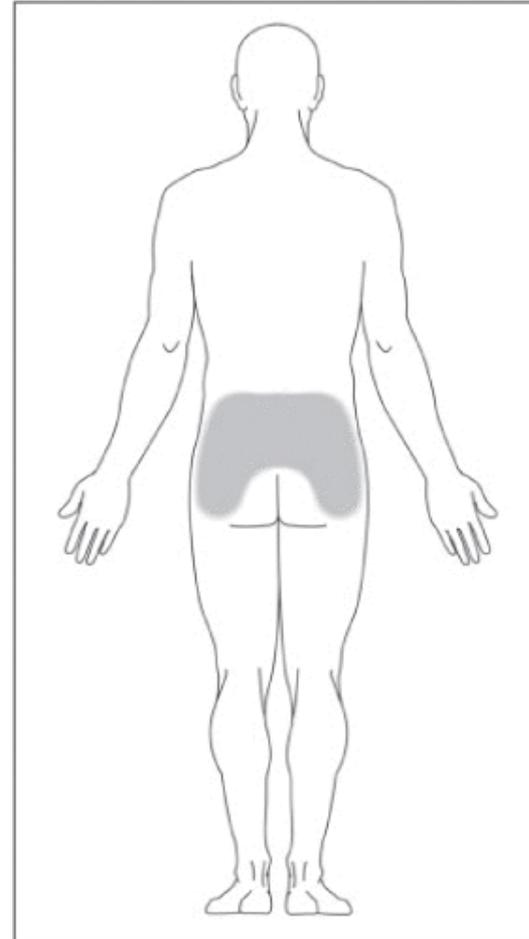
Relevant, Responsive, Requested

2.8-2-34



Low Back Pain

- Definition
- Synonyms
- Risk Factors
- General Prevention



STAT!Ref: Essentials of Musculoskeletal Care 5th Ed., <https://online.statref.com/>

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2.8-2-35

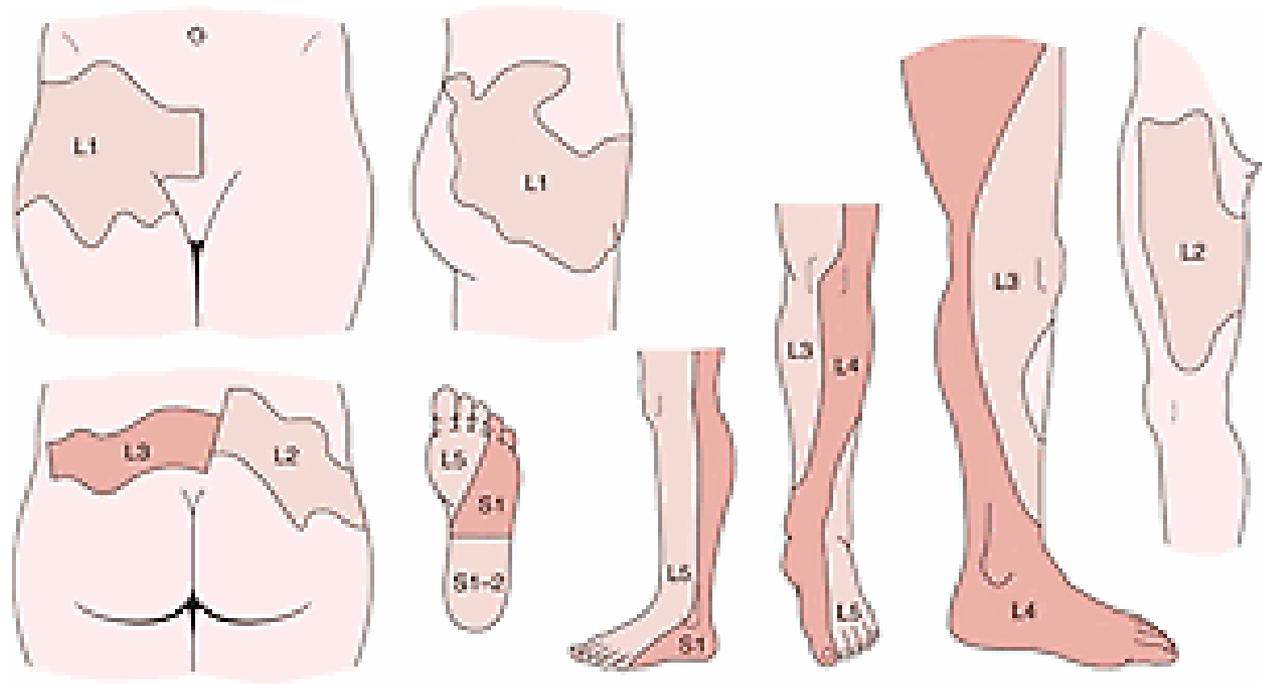


Low Back Pain (Cont.)

- Diagnosis

- History
- Physical Exam

- Differential Diagnosis



(Acute Low Back Pain, Elsevier Point of Care, www.clinicalkey.com)



Low Back Pain (Cont.)

- Diagnostic Tests & Interpretations
- Treatment
 - First Line
 - Patient Education
 - Medications
 - Obstetric Considerations



STAT!Ref: Clinical Checklist, Lab Advisor & Drugpoints System, <https://online.statref.com/>

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Low Back Pain (Cont.)

- Treatment
 - Second Line
 - Moderate to Severe Pain
 - Other Treatments
 - Injections



STAT!Ref: Clinical Checklist, Lab Advisor & Drugpoints System, <https://online.statref.com/>

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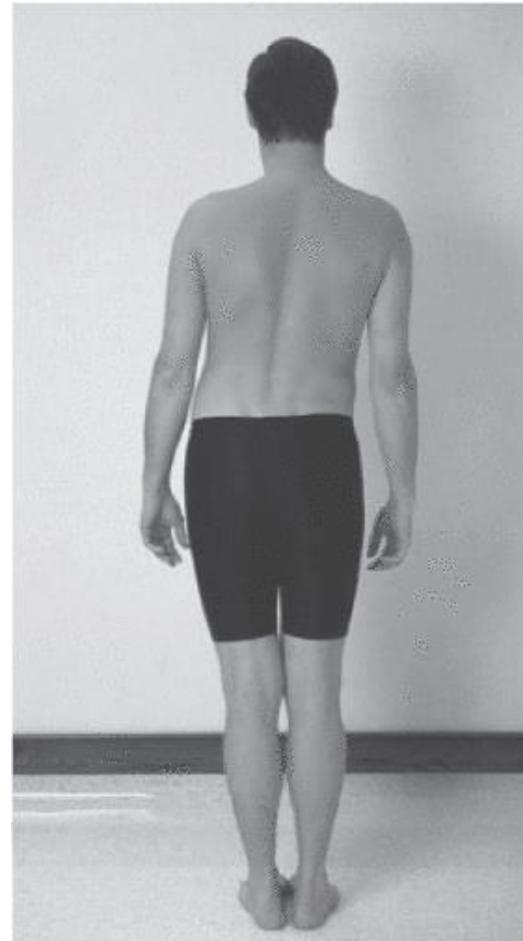
Relevant, Responsive, Requested

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Herniated Disc

- Definition
- Synonyms
- Clinical Symptoms



STAT!Ref: Essentials of Musculoskeletal Care 5th Ed., <https://online.statref.com/>

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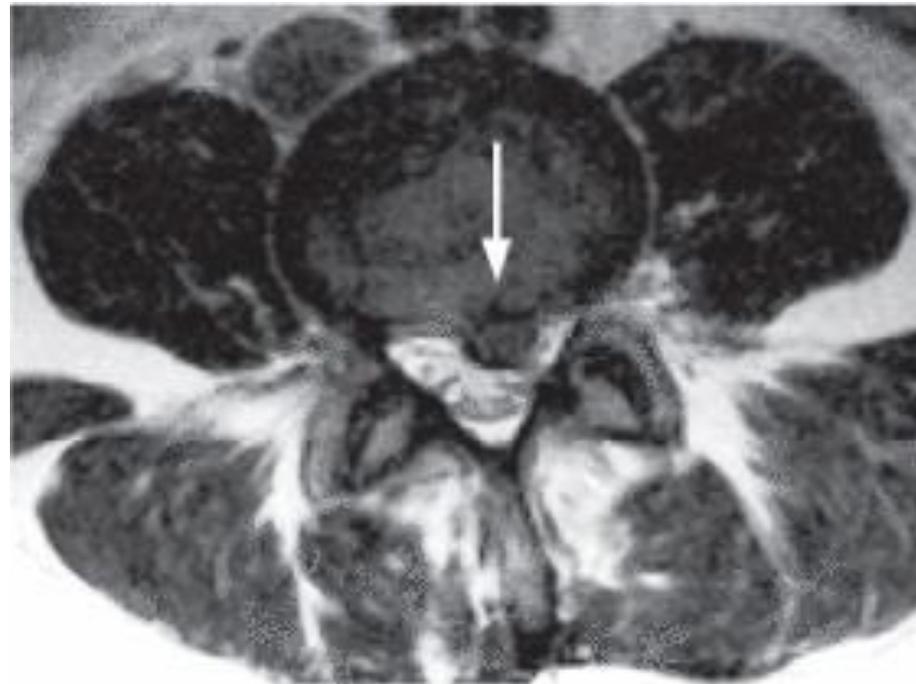
Relevant, Responsive, Requested

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Herniated Disc (Cont.)

- Physical Examination
- Diagnostic Tests
- Differential Diagnosis
- Adverse Outcomes of the Disease



STAT!Ref: Essentials of Musculoskeletal Care 5th Ed., <https://online.statref.com/>



Herniated Disc (Cont.)

- Treatment
- Adverse Outcomes of Treatment
- Referral Decisions/Red Flags



Summary and Review

- 1.46 Utilize the knowledge of musculoskeletal system anatomy while assessing a patient with a musculoskeletal complaint
- 1.47 Utilize the knowledge of musculoskeletal system physiology while assessing a patient with a musculoskeletal complaint
- 1.48 Obtain history from patient with common orthopedic disorders



Summary and Review (Cont.)

- 1.49 Perform an orthopedic examination
- 1.50 State signs and symptoms of common orthopedic disorders
- 1.51 State treatments for common orthopedic disorders
- 1.16 State Red Flag criteria



Questions



R³

Relevant, Responsive, Requested

2.8-2-44



Application

- Neck and Spine Job Sheet, SCSC 2.8-3
- SCSC Performance Test 8