

# Health Assessment Musculoskeletal Study Guide Jarvis

Jarvis: Physical Examination and Health Assessment, 8th Edition

Chapter 23: Musculoskeletal System

Answer Keys: Study Guide and Lab Manual

1. 1. In *non-synovial* joints, the bones are united by fibrous tissue or cartilage and are immovable (e.g., the sutures in the skull) or only slightly movable (e.g., the vertebrae). *Synovial* joints are freely movable, because they have bones that are separated from each other and are enclosed in a joint cavity.
2. 2. The four signs of acute inflammation:
  1. (1) Exquisite tenderness.
  2. (2) Swelling.
  3. (3) Heat.
  4. (4) Redness.
- 3. The differences are as follows:
  - • Dislocation: one or more bones in a joint are out of position.
  - • Subluxation: partial dislocation of a joint.
  - • Contracture: shortening of a muscle leading to limited range of motion of a joint.
  - • Ankylosis: stiffness or fixation of a joint.
- 4. Test active range of motion by asking the person to move his or her joint voluntarily. To test passive range of motion, anchor the joint with one hand while your other hand slowly moves it to its limit. The normal ranges of active and passive motion should be the same.
- 5. To measure true leg length: measure between fixed points, from the anterior iliac spine to the medial malleolus, crossing the medial side of the knee (see Fig. 23.45). Normally these measurements are within 1 cm of each other. To measure apparent leg length, when true leg length is equal but the legs still look unequal, measure from a nonfixed point (the umbilicus) to a fixed point (medial malleolus) on each leg.
- 6. See the text description of Ortolani maneuver and refer to Fig. 23.46.
- 7. See test description of functional assessment for the older adult, under "Normal Range of Findings."
- 8. See photograph and descriptions of swan-neck deformity and boutonniere deformity in Table 23.4, Abnormalities of the Wrist and Hand.
- 9. Bouchard nodes are bony overgrowths on the proximal interphalangeal joints. Heberden nodes are bony overgrowths of the distal interphalangeal joints. Both types of nodes are hard and nontender, and occur with osteoarthritis. See photograph in Table 23.4, Abnormalities of the Wrist and Hand.

Labeling Exercises:

- • See Fig. 23.8.
- • See Fig. 23.11.
- • See Fig. 23.13.

Health assessment musculoskeletal study guide Jarvis is an essential resource for nursing students and healthcare professionals who aim to enhance their understanding of the musculoskeletal system. This study guide, derived from the renowned textbook "Physical Examination and Health Assessment" by Carolyn Jarvis, provides critical insights into assessing the health of bones, muscles, and joints. The musculoskeletal system is vital for movement and physical activity, and understanding its anatomy, physiology, and common disorders is crucial for effective patient care. This article will explore key concepts, assessment techniques, and considerations for professionals working in various healthcare settings.

# Understanding the Musculoskeletal System

The musculoskeletal system comprises bones, muscles, tendons, ligaments, and cartilage. It provides structure, support, and movement for the body while also protecting internal organs. A thorough understanding of this system is essential for accurate health assessment.

## Anatomy of the Musculoskeletal System

1. **Bones:** Rigid structures that form the skeleton, providing support and protection for the body's organs.
2. **Muscles:** Tissues that contract to enable movement. There are three types:
  - **Skeletal muscles:** Voluntary muscles attached to bones.
  - **Smooth muscles:** Involuntary muscles found in organs.
  - **Cardiac muscles:** Involuntary muscles that make up the heart.
3. **Tendons:** Connective tissues that attach muscles to bones.
4. **Ligaments:** Connective tissues that connect bones to other bones at joints.
5. **Cartilage:** Flexible tissue that cushions joints and supports structures.

## Physiology of the Musculoskeletal System

The musculoskeletal system plays several critical roles:

- **Movement:** Facilitates movement through muscle contraction and bone leverage.
- **Support:** Provides shape and form to the body.
- **Protection:** Shields vital organs, such as the brain and heart.
- **Mineral Storage:** Stores minerals like calcium and phosphorus.
- **Hematopoiesis:** Produces blood cells in the bone marrow.

## Health Assessment Techniques for the Musculoskeletal System

A comprehensive health assessment of the musculoskeletal system involves various techniques to evaluate its structure and function.

### Inspection

During inspection, the healthcare professional should look for:

- **Posture:** Assess overall body alignment.
- **Deformities:** Note any abnormalities in bone structure or joint position.
- **Swelling or Atrophy:** Look for signs of inflammation or muscle wasting.

- Skin Changes: Observe for changes such as redness, bruising, or rashes.

## **Palpation**

Palpation involves using hands to feel bones, muscles, and joints. Key areas to assess include:

- Temperature: Check for warmth that may indicate inflammation.
- Tenderness: Identify areas of pain or discomfort.
- Swelling: Assess the presence of fluid in joints or tissues.
- Muscle Tone: Evaluate the firmness or flaccidity of muscles.

## **Range of Motion (ROM) Assessment**

Assessing range of motion is crucial for determining the function of joints.

- Active ROM: The patient performs movements independently.
- Passive ROM: The examiner moves the patient's joints without assistance.

The following should be noted during ROM assessment:

- Limitations: Identify any restrictions in movement.
- Crepitus: Listen for grinding or popping sounds during movement.
- Pain: Document any discomfort experienced by the patient.

## **Strength Testing**

Muscle strength can be evaluated using a grading scale from 0 to 5:

1. 0: No muscle contraction.
2. 1: Flicker of contraction.
3. 2: Active movement with gravity eliminated.
4. 3: Active movement against gravity.
5. 4: Active movement against gravity and some resistance.
6. 5: Active movement against full resistance.

## **Common Musculoskeletal Disorders**

Understanding common disorders is vital for effective health assessments.

### **Arthritis**

Arthritis involves inflammation of one or more joints, leading to pain and stiffness. Types include:

- Osteoarthritis: Degenerative joint disease often due to aging.
- Rheumatoid Arthritis: Autoimmune disorder affecting joints symmetrically.

## **Osteoporosis**

Osteoporosis is characterized by decreased bone density, increasing the risk of fractures. Risk factors include:

- Age
- Gender (higher prevalence in women)
- Family history
- Hormonal changes

## **Fractures**

Fractures are breaks in bones and can be classified as:

- Closed Fracture: Bone breaks but does not pierce the skin.
- Open Fracture: Bone breaks and pierces the skin.

Signs of fractures include:

- Deformity
- Swelling
- Pain
- Inability to use the affected limb

## **Documentation and Reporting**

Accurate documentation is essential in health assessments. Key components include:

- Patient History: Record any relevant medical history, including previous injuries or conditions.
- Assessment Findings: Detail inspection, palpation, ROM, and strength findings.
- Plan of Care: Outline further diagnostic tests or referrals if necessary.

## **Conclusion**

The health assessment musculoskeletal study guide Jarvis serves as a comprehensive tool for understanding the intricacies of the musculoskeletal system and performing thorough health assessments. By mastering assessment techniques, recognizing common disorders, and accurately documenting findings, healthcare professionals can significantly impact patient outcomes.

Continuous education and practice in musculoskeletal assessments will enhance clinical skills and improve the quality of care provided to patients. This foundational knowledge is essential for nursing students and professionals alike, ensuring that they are well-prepared to address the needs of individuals experiencing musculoskeletal issues.

## **Frequently Asked Questions**

### **What is the purpose of a musculoskeletal health assessment according to Jarvis?**

The purpose of a musculoskeletal health assessment is to evaluate the function and integrity of the bones, muscles, and joints to identify any abnormalities, pain, or conditions that may affect mobility and overall health.

### **What key components should be included in a musculoskeletal assessment?**

Key components include a thorough patient history, observation of posture and gait, inspection of joints and muscles, palpation for tenderness or swelling, range of motion testing, and strength assessment.

### **How does Jarvis suggest assessing joint range of motion?**

Jarvis suggests assessing joint range of motion by using both active and passive movements, observing for pain, stiffness, or limitations in movement, and comparing findings bilaterally.

### **What are common musculoskeletal conditions to look for in a health assessment?**

Common conditions include arthritis, osteoporosis, fractures, tendonitis, bursitis, and muscle strains.

### **What role does patient history play in a musculoskeletal assessment?**

Patient history is crucial as it provides context regarding previous injuries, existing conditions, family history of musculoskeletal disorders, and current symptoms, which can guide the examination process.

### **Why is palpation important in a musculoskeletal assessment?**

Palpation is important as it helps to detect areas of tenderness, swelling, temperature changes, or abnormalities in muscle tone and joint structures.

### **How should a nurse document findings from a musculoskeletal assessment?**

Findings should be documented in a clear, systematic manner, detailing the assessment of each joint

and muscle, any abnormalities noted, and the patient's reported symptoms, to ensure accurate tracking and communication.

## **What are some signs of musculoskeletal disorders that a nurse should be aware of?**

Signs include joint swelling, redness, warmth, deformity, decreased range of motion, crepitus, muscle weakness, and abnormal gait.

## **How does Jarvis recommend performing a strength assessment?**

Jarvis recommends performing a strength assessment by having the patient perform specific movements against resistance, comparing strength on both sides, and using a scale to quantify muscle strength.

## **What educational information should be provided to patients during a musculoskeletal assessment?**

Patients should be educated about maintaining joint health, the importance of regular exercise, signs and symptoms to watch for that may indicate problems, and strategies for injury prevention.

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