

Preconference Form

Student Name: _____ Chase Norton

Medical Diagnosis/Disease: _____ Osteoarthritis

NCLEX IV (8): Physiological Integrity/Physiological Adaptation

Anatomy and Physiology Normal Structures

Each synovial joint is enclosed within a fibrous connective tissue capsule, which connects the articulating bones and forms a joint cavity. This capsule is lined with a synovial membrane that secretes viscous synovial fluid. The fluid serves multiple vital functions: it lubricates the joint, reduces friction, and allows the smooth gliding of opposing joint surfaces. Additionally, synovial fluid supplies oxygen and nutrients to the chondrocytes in the articular cartilage, while also facilitating the removal of carbon dioxide and metabolic waste. The ends of each bone are covered by articular cartilage, which cushions the joint and absorbs shock. Supporting structures such as ligaments and tendons reinforce the joint capsule, providing stability and limiting excessive movement, thereby protecting the joint from injury.

Pathophysiology of Disease

Osteoarthritis (OA) is a slowly progressive, non-inflammatory joint disorder affecting synovial (diarthrodial) joints. It can be triggered by events or conditions that damage cartilage or cause joint instability, but it often develops due to a complex interplay of genetic, metabolic, and mechanical factors. OA begins at the level of chondrocytes and leads to the gradual deterioration of articular cartilage. Healthy cartilage becomes dull, yellow, granular, softer, and less elastic over time, making it more vulnerable to damage. The body tries to repair the cartilage, but these efforts cannot keep up with the rate of degeneration. Collagen structure deteriorates, central cartilage thins, edge cartilage thickens, and bony outgrowths (osteophytes) form. Joint surfaces become uneven, leading to poor stress distribution and reduced joint mobility.

NCLEX IV (7): Reduction of Risk

Anticipated Diagnostics Labs

- Synovial fluid analysis
- Complete blood count
- Renal and liver function test

Additional Diagnostics

- X-ray
- Bone scan
- CT scan
- MRI

NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors

- Various genetic traits
- Decreased estrogen at menopause
- Obesity
- Work that requires frequent kneeling and stooping

Signs and Symptoms

- Joint pain
- Pain worsens with activity
- Pain may worsen when the barometric pressure drops before the onset of severe weather
- Joint stiffness after periods of

NCLEX IV (7): Reduction of Risk

Possible Therapeutic Procedures

Non-surgical

- Physical therapy
- Occupational therapy
- Heat and cold applications
- Nutrition therapy

Surgical

- Joint

Prevention of Complications

(What are some potential complications associated with this disease process)

- Joint deformity
- Functional disability
- Reduced range of motion
- Difficulty walking or standing
- Depression/

	rest or an unchanged position - Excessive activity can cause mild joint swelling that can increase stiffness - Crepitation	replacement - Joint infusion - Arthroscopy - Osteotomy	Anxiety
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NCLEX IV (6): Pharmacological and Parenteral Therapies

<u>Anticipated Medication Management</u> - Nonsteroidal anti-inflammatory drugs (NSAID) - Capsaicin cream - Diclofenac gel - Topical salicylates - Aspirin - Intraarticular corticosteroid Injections - Hyaluronic acid injection
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NCLEX IV (5): Basic Care and Comfort

<u>Non-Pharmacologic Care Measures</u> - Acupuncture - Heat and cold applications - Exercise

NCLEX III (4): Psychosocial/Holistic Care Needs

<u>What stressors might a patient with this diagnosis be experiencing?</u> - Chronic pain - Fear of decreased mobility - Loss of sleep due to discomfort - Inability to work physically demanding jobs - Treatment costs - Coping with chronic illness
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Client/Family Education

<u>List 3 potential teaching topics/areas</u> • Teach the patient the importance of maintaining a healthy weight. • Teach the patient to avoid forceful repetitive joint movement. • Teach the patient the importance of use of good posture and body mechanics.

NCLEX I (1): Safe and Effective Care Environment

<u>Multidisciplinary Team Involvement</u> (Which other disciplines do you expect to share in the care of this patient) - Internal medicine physician or family HCP - Rheumatologist - Nurse - Occupational therapist - Physical therapist
