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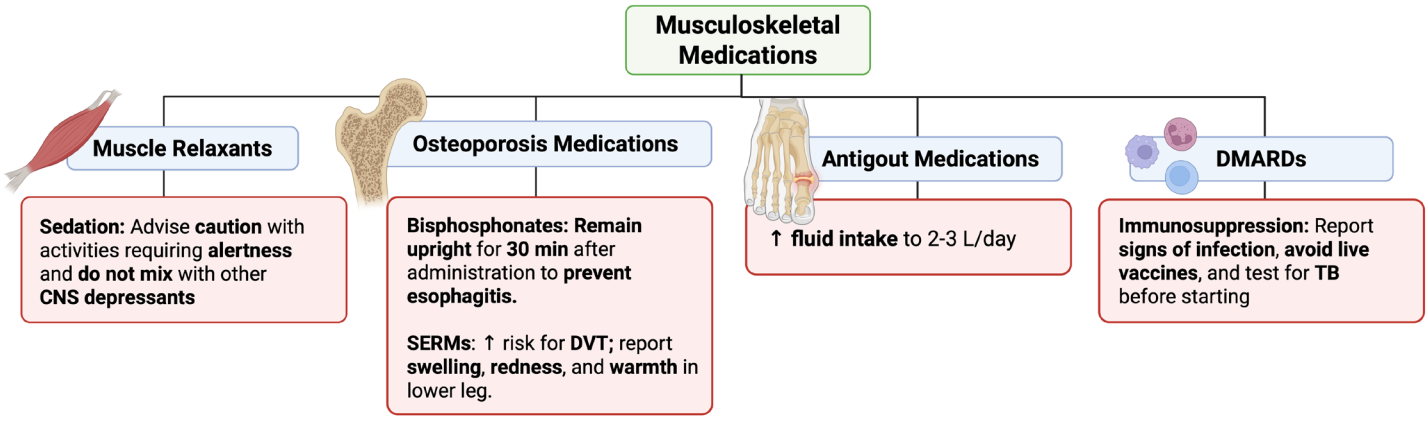
FIGURE 1. MUSCULOSKELETAL MEDICATIONS AT A GLANCE



1. Muscle Relaxants

Muscle relaxants ↓ skeletal muscle spasms caused by injury (fractures), inflammation, or anxiety-related tension.

- **Examples**: cyclobenzaprine, tizanidine, carisoprodol, baclofen
- **Action**: ↓ CNS activity ⟶ Relax skeletal muscles
- **Adverse effects**
  - **Sedation** and **dizziness**
    - **Avoid** combining with other **CNS depressants** (opioids, alcohol, other muscle relaxers).
    - Advise **caution** with activities requiring **alertness** (**driving**).
    - Implement **fall risk** precautions (especially in older adults).
  - **Hepatotoxicity**: **Monitor LFTs** and **avoid** use in clients with **liver disease** (cirrhosis, hepatitis).

NCLEX Star Points

❶ **Muscle relaxants**: Muscle relaxants (cyclobenzaprine, baclofen) cause **sedation**. **Avoid** combining with other **CNS depressants** and advise **caution** with activities requiring **alertness** (**driving**).

2. Osteoporosis Medications

Osteoporosis medications prevent or treat **bone loss** and ↓ **fracture risk** (see ARTHRITIS & OSTEOPOROSIS CHEAT SHEET).

a. Bisphosphonates

- **Examples**: alen*dronate*, rise*dronate*
- **Action**: **Slow bone resorption** by ↓ osteoclast activity
- **Nursing considerations**
  - Take in the morning with a **full glass of water**.
  - ✪ **Remain upright** for **30 min** after administration to **prevent esophagitis**.

b. Selective estrogen receptor modulators (SERMs)

- **Examples**
  - Ral*oxifene*: Treats **osteoporosis** by ↓ **bone resorption**
  - Tam*oxifen*: Treats **breast cancer** by slowing tumor growth
- **Adverse effects**
  - Hot flashes
  - Leg cramps
  - ✪ **Blood clots**
    - ↓ risk by **avoiding prolonged immobility** and **not smoking**.
    - Report signs of **DVT** (swelling, redness, warmth in leg).

3. Antigout Medications

Antigout medications ↓ **uric acid levels** and prevent or treat acute gout flares.

- **Examples**: allopurinol, probenecid, colchicine

Action

- **Allopurinol**: ↓ uric acid production
- **Probenecid**: ↑ uric acid excretion
- **Colchicine**: ↓ inflammation during gout attacks

Nursing considerations

- ✪ **Fluids**: **Encourage 2–3 L/day** to ↑ **uric acid excretion** and **prevent kidney stone formation**.
- **Diet**: Teach clients to **avoid alcohol** and **high-purine** foods (**red meat**, **organ meats**), which ↑ **uric acid levels**.

4. Disease-Modifying Antirheumatic Drugs (DMARDs)

DMARDs slow the progression of **rheumatoid arthritis** (RA) by **suppressing** the **immune system** (see ARTHRITIS & OSTEOPOROSIS CHEAT SHEET).

a. Non-Biologic DMARDs

- **Methotrexate**
  - 1st-line treatment for RA
  - **Adverse effects**
    - ✪ **Immunosuppression**: Report **signs of infection** (fever, sore throat, fatigue).
    - **Hepatotoxicity**: **Avoid alcohol**, monitor **LFTs**, and report signs of liver injury (**dark urine**, **yellow eyes**).
    - Risk for **birth defects**: Use **reliable contraception**.
- **Hydroxychloroquine**
  - Used for mild to moderate **RA**.
  - **Adverse effects**
    - ✪ **Retinal damage**: Annual **eye exams** are **required**; **immediately report vision changes** (blurry vision, floaters).

b. Biologic DMARDs

Used if **non-biologic DMARDs fail**

- **Examples**: etanercept, adalimu*mab*, inflixi*mab*
- **Adverse effects**
  - ✪ **Immunosuppression**
    - Report **signs of infection** (fever, sore throat, fatigue).
    - **Avoid live vaccines**: ↑ **risk of infection** from live attenuated viruses (MMR, varicella).
    - Must test **negative** for **TB** before starting (immunosuppression → activation of latent TB)

NCLEX Star Points

❷ **Bisphosphonates**: Take **bisphosphonates** (alendronate, risedronate) with a **full glass of water** and stay **upright for 30 minutes** after administration to prevent esophagitis.

❸ **SERMs**: SERMs (raloxifene, tamoxifen) are estrogenic, which increases risk for **DVT**; report **leg swelling**, **redness**, and **warmth**.

❹ **Antigout medications**: Encourage **2–3 L/day of fluids** with antigout meds (allopurinol, probenecid) to promote **uric acid excretion** and prevent **kidney stones**.

❺ **DMARDs**: DMARDs (methotrexate, etanercept, adalimumab) cause **immunosuppression**; report **signs of infection**, **avoid live vaccines**, and test for **TB** before initiation.

TABLE 1. MUSCULOSKELETAL MEDICATIONS SUMMARY

Muscle relaxants cyclobenzaprine tizanidine carisoprodol baclofen	• **Sedation and dizziness**: **Avoid** combining with other **CNS depressants** and advise **caution** with activities requiring **alertness**.
Osteoporosis Medications *Bisphosphonates*: alen*dronate*, rise*dronate* *SERMs*: ral*oxifene* tam*oxifen*	• **Bisphosphonates**: **Remain upright** for **30 min** after administration. • **SERMs**: ↑ risk for **blood clots**; **avoid** prolonged **immobility** and **smoking**.
Antigout Medications allopurinol probenecid colchicine	• **Encourage** fluid intake of **2–3 L/day** to ↑ **uric acid excretion** and **prevent kidney stone formation**.
Disease-Modifying Antirheumatic Drugs methotrexate, hydroxychloroquine etanercept, adalimu*mab*, inflixi*mab*	• **Immunosuppression**: Report signs of **infection**, **avoid live vaccines**, and **test for TB** before starting.

NCLEX Top 5 Targets

❶ **Muscle relaxants** (cyclobenzaprine, baclofen) cause _____; **avoid** combining with other **CNS depressants** and advise **caution** with activities requiring **alertness**.

❷ Take **bisphosphonates** with _____ and **stay upright** for _____ **minutes** after administration to prevent **esophagitis**.

❸ **SERMs** (ral*oxifene*) **increase the risk** of _____; **report symptoms** of _____, _____, and _____.

❹ Encourage **fluid intake** of _____ **L/day** with **antigout meds** to promote **uric acid excretion** and prevent **kidney stones**.

❺ **DMARDs** cause _____; **report signs** of _____, **avoid** _____ **vaccines**, and **test for** _____ before initiation.

Answers: 1. sedation 2. a full glass of water, 30 3. blood clots, leg swelling, redness, warmth 4. 2-3 5. immunosuppression, infection, live, TB

References:

Burchum, J. R. & Rosenthal, L. D. (2025). *Lehne's pharmacology for nursing care* (12th ed.). Elsevier.

Harding, M. M., Kwong, J., Hagler, D., & Reinisch, C. (Eds.). (2023). *Lewis's medical-surgical nursing: Assessment and management of clinical problems* (12th ed.). Elsevier.

Ignatavicius, D., Heimgartner, N., & Rebar, C. (Eds.). (2024). *Medical-surgical nursing: Concepts for clinical judgment and collaborative care* (11th ed.). Elsevier.

Lilley, L. L., Collins, S. R., & Snyder, J. S. (Eds.). (2023). *Pharmacology and the nursing process* (10th ed.). Elsevier.

Sealock, K., & Seneviratne, C. (Eds.). (2025). *Lilley's pharmacology for Canadian health care practice* (5th ed.). Elsevier.

Tyerman, J., Cobbett, S., Harding, M. M., Kwong, J., Roberts, D., Hagler, D., Reinisch, C. (Eds.). (2023). *Lewis's medical-surgical nursing in Canada: Assessment and management of clinical problems* (5th ed.). Elsevier.

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- **Musculoskeletal Medications at a Glance**: Created with BioRender.com