anakinra (a-nak-in-ra)

**Classification**

Therapeutic: antirheumatics (DMARD)
Pharmacologic: interleukin antagonists

**Pregnancy Category B**

**Indications**

Reduction of the signs and symptoms of moderately to severely active rheumatoid arthritis in patients who have failed other DMARDs (may be used in combination with other DMARDs other than tumor necrosis factor (TNF) blocking agents). Neonatal-onset multisystem inflammatory disease (NOMID).

**Action**

Blocks the destructive effects of interleukin-1 on cartilage and bone resorption by inhibiting its binding at specific tissue receptor sites.

**Therapeutic Effects:**

Slowed progression of rheumatoid arthritis. Reduction in NOMID symptoms.

**Pharmacokinetics**

- **Absorption:** Well absorbed (95%) following subcut administration.
- **Distribution:** Unknown.
- **Metabolism and Excretion:** Unknown.
- **Half-life:** 4–6 hr.

**TIME/ACTION PROFILE (clinical response)**

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<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
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<td>Subcut</td>
<td>within 12 wk</td>
<td>unknown</td>
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**Contraindications/Precautions**

**Contraindicated in:** Active infections; Hypersensitivity; Hypersensitivity to other Escherichia coli-derived products.

**Use Cautiously in:** Other chronic debilitating illness; Underlying immunosuppression; Renal impairment; OB, Lactation, Pedi: Safety not established; Geri: May be more sensitive to toxicity due to age-related decline in renal function, increased incidence of infection in geriatric population.

**Exercise Extreme Caution in:** Concurrent use of TNF blocking agents such as etanercept (higher risk of serious infections).

**Adverse Reactions/Side Effects**

- **CNS:** headache.
- **GI:** diarrhea, nausea.
- **Hemat:** neutropenia.
- **Local:** injection site reactions.
- **Misc:** INFECTIONS, hypersensitivity reactions (rare).

**Interactions**

**Drug-Drug:**

Risk of serious infections with TNF blocking agents, such as etanercept. May lower antibody response to and increase the risk of adverse reactions from vaccines; avoid concurrent administration of live vaccines.

**Route/Dosage**

**Rheumatoid Arthritis**

- **Subcut (Adults ≥18 yr):** 100 mg/day.

**Neonatal-Onset Multisystem Inflammatory Disease**

- **Subcut (Adults and Children):** 1–2 mg/kg/day given in 1–2 divided doses; may be titrated to 0.5–1 mg/kg/day as needed (maximum = 8 mg/kg/day).

**NURSING IMPLICATIONS**

**Assessment**

- Assess for signs and symptoms of infection (fever, elevated WBC) prior to and periodically during therapy. Screen for latent TB prior to beginning therapy; treat if screen is positive. Anakinra should not be instituted in patients with active infections and should be discontinued if patient develops a serious infection.
- Observe patient for hypersensitivity reactions (urticaria, dyspnea, hypotension). Discontinue and refer severe reaction occurs. Medications (antihistamines, antacids, corticosteroids, epinephrine) and equipment should be readily available in the event of a severe reaction.
- Rheumatoid Arthritis: Assess patient’s range of motion and degree of swelling and pain in affected joints before and periodically during therapy.
- Neonatal-Onset Multisystem Inflammatory Disease: Assess symptoms of NOMID (fever, rash, joint pain, vomiting, headache) prior to and periodically during therapy.

**Patient/Family Teaching**

- Monitor therapeutic effect at 1–2 wk intervals during therapy; therapy may need to be continued for up to 1 yr.

- **Adverse Reactions:** Monitor for therapeutic effect prior to and during therapy. Antihistamines, antacids, corticosteroids, epinephrine should be readily available in the event of a severe reaction.

- **Lab Test Considerations:** Monitor neutrophil count prior to and during therapy; may be monitored every 1–4 wk.
Potential Nursing Diagnoses

Impaired physical mobility (Indications)

Acute pain (Indications)

Implementation

● Administration of higher than recommended doses did not result in higher responses.

● Subcut: Administer 1 dose/day. Do not administer solutions that are discolored or contain particulate matter or are beyond expiration date. Provided in single-use prefilled syringes. Store in refrigerator, do not freeze. Remove from refrigerator and allow to reach room temperature for 30 min prior to injection. Avoid injecting into areas that are red or swollen.

Patient/Family Teaching

● Instruct patient in correct technique for injection and disposal of equipment. Advise patient/patient to read Patient Information and Instructions for Use prior to starting therapy and well can help recall, increase of changes.

● Instruct patient of the signs and symptoms of hypersensitivity reactions and injection site reactions (pain, edema, swelling, purpura, bruising, mass, inflammation, dermatitis, edema, urticaria, tenderness, warmth, and/or itching). Advise patient of appropriate actions if reactions occur.

● Advise patient to notify health care professional of allRx or OTC medications, vitamins, or herbal products being taken and to consult with health care professional before taking other medications.

● Advise patients not to receive live vaccines during therapy with anakinra without consulting health care professional.

● Advise female patients to notify health care professional if pregnancy is planned or suspected, or if breast feeding.

Home Care Issues: Instruct patient and family on preparation and correct technique for administration of injection and care and disposal of equipment. Caution patients and caregivers not to reuse needles, syringes, or drug product.

Evaluation/Desired Outcomes

● Reduction of signs and symptoms and slowed progression of moderate to severe active rheumatoid arthritis.

● Decrease in signs and symptoms of NOMID.

Why was this drug prescribed for your patient?