Intron A
(interferon alfa-2b)

RATIONALE FOR INCLUSION IN PA PROGRAM

Background
Interferons are a family of naturally-occurring proteins that are made and secreted by cells of the immune system (for example, white blood cells, natural killer cells, fibroblasts, and epithelial cells). Three classes of interferons have been identified: alpha, beta, and gamma (1).

Each class has many effects, though their effects overlap. Commercially available interferons are human interferons manufactured using recombinant DNA technology. The mechanism of action of interferon is complex and is not well understood. Interferons modulate the response of the immune system to viruses, bacteria, cancer, and other foreign substances that invade the body. Interferons do not directly kill viral or cancerous cells; they boost the immune system response and reduce the growth of cancer cells by regulating the action of several genes that control the secretion of numerous cellular proteins that affect growth (1).

Regulatory Status
FDA-approved indications: Intron A is an alpha interferon indicated for:

1. **Hairy Cell Leukemia:** Intron A is indicated for the treatment of patients 18 years of age or older with hairy cell leukemia (2).
2. **Malignant Melanoma:** Intron A is indicated as adjuvant to surgical treatment in patients 18 years of age or older with malignant melanoma who are free of disease but at high risk for systemic recurrence, within 56 days of surgery (2).
3. **Follicular Lymphoma:** Intron A is indicated for the initial treatment of clinically aggressive follicular Non-Hodgkin’s Lymphoma in conjunction with anthracycline-containing combination chemotherapy in patients 18 years of age or older. Efficacy of Intron A therapy in patients with low-grade, low tumor burden follicular Non-Hodgkin’s Lymphoma has not been demonstrated (2).
4. **Condylomata Acuminata:** Intron A is indicated for intralesional treatment of selected patients 18 years of age or older with condylomata acuminata involving external surfaces of the genital and perianal areas. The use of this product in adolescents has not been studied (2).
5. **AIDS-Related Kaposi’s Sarcoma:** Intron A is indicated for the treatment of selected patients 18 years of age or older with AIDS-Related Kaposi’s Sarcoma. The likelihood of response to Intron A therapy is greater in patients who are without systemic symptoms, who
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have limited lymphadenopathy and who have a relatively intact immune system as indicated by total CD4 count (2).

Off-Label Uses: (3)
1. Carcinoid tumor
2. Multiple myeloma
3. Polycythemia vera
4. Renal cell cancer

All alpha interferons, including Intron A, carry a boxed warning that they can cause or aggravate fatal or life-threatening neuropsychiatric, autoimmune, ischemic, and infectious disorders. Patients should be monitored closely with periodic clinical and laboratory evaluations. Patients with persistently severe or worsening signs or symptoms of these conditions should be withdrawn from therapy. In many but not all cases these disorders resolve after stopping Intron A therapy (2).

Summary
Interferons are naturally occurring proteins with antiviral, antiproliferative and immunoregulatory properties. They are produced and secreted in response to viral infections and to a variety of other synthetic and biological inducers. Three types of interferons have been identified: alpha, beta, and gamma. Binding of interferon to membrane receptors initiates a series of events including induction of protein synthesis. These actions are followed by a variety of cellular responses, including inhibition of virus replication and suppression of cell proliferation (1).

Prior authorization is required to ensure the safe, clinically appropriate and cost effective use of Intron A while maintaining optimal therapeutic outcomes.

References