Fluticasone/Vilanterol (inhalation) (flo-tik-a-sone vye-lan-ter-ol)

**See Elipsa.**

**Classification**
Therapeutic: bronchodilators.
Pharmacologic: corticosteroids, adrenergics

**Pregnancy Category:** C

**Indications**
Maintenance treatment of patients with COPD; combination of a corticosteroid (fluticasone) and a long-acting beta agonist (LABA, vilanterol).

**Action**
Fluticasone—decreases airway inflammation.
Vilanterol—relaxes bronchial smooth muscle.

**Therapeutic Effects:** Improved airflow and fewer exacerbations in COPD.

**Pharmacokinetics**

**Absorption:**
Fluticasone—15.2% systemically absorbed from lungs following inhalation, minimal absorption from swallowing; vilanterol—27.3% systemically absorbed from lungs following inhalation, minimal absorption from swallowing. Swallowed drugs undergo extensive first-pass hepatic metabolism.

**Distribution:** Fluticasone—Unkvilanterol—.

**Protein Binding:** Fluticasone—99.6%, vilanterol—93.9%.

**Metabolism and Excretion:**
Both fluticasone and vilanterol are metabolized by CYP3A4, with some conversion to agents with less pharmacologic activity.
Fluticasone—Parent drug and metabolites are excreted primarily in feces, 1–2% is excreted in urine; vilanterol—parent drug and metabolites are 70% excreted in urine, 30% in feces.

**Half-life:** Fluticasone—24 hr, vilanterol—21.3 hr.

**TIME/ACTION PROFILE (bronchodilation)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
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<tbody>
<tr>
<td>Inhaln</td>
<td>1 hr</td>
<td>1–2 hr</td>
<td>24 hr</td>
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**Contraindications/Precautions**

**Contraindicated in:** Hypersensitivity to any components or severe hypersensitivity to milk proteins; Not indicated for asthma, acute bronchospasm or deteriorating COPD; Acute treatment of COPD; Concurrent use of other LABAs.

**Use Cautiously in:**
Moderate to severe hepatic impairment (flufluticasone levels may lead to systemic corticosteroid effects); Cardiovascular history (vilanterol); Concurrent use of beta-blockers; Glaucoma or cataracts (close monitoring recommended); History of seizures, bronchospasm, diabetes mellitus, or ketoadiposis (vilanterol); Diet (vilanterol) may be more sensitive to effects; Drug during pregnancy unless if potential maternal benefit justifies risk to the fetus (hypoadrenalism may occur in infant).

**Adverse Reactions/Side Effects**

**CNS:** Headache.

**Resp:** Asthma-related death (vilanterol), nasopharyngitis, risk of pneumonia (fluticasone), upper respiratory tract infection, paradoxical bronchospasm.

**GI:** Oral candidiasis.

**Endo:** Hyperglycemia, adrenal suppression (high dose fluticasone), impaired adrenal function (during taper from systemic corticosteroids).

**F and E:** Hypokalemia.

**MS:** Bone mineral density (fluticasone).

**Misc:** Risk of/worsening infections (fluticasone).

**Interactions**

**Drug-Drug:** Risk of corticosteroid effects or adverse cardiovascular reactions with CYP3A4 inhibitors, including clarithromycin, ketoconazole, itraconazole, saquinavir, telithromycin, clarithromycin, efavirenz, voriconazole (concurrent use should be undertaken with extreme caution). Concurrent use of beta-blockers may affect effectiveness of fluticasone and vilanterol.

**Route/Dosage**

**Careful monitoring during transfer from systemic corticosteroids is required**

**Inhaln (Adults):** One inhalation daily (fluticasone 100 mcg/vilanterol 25 mcg).

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NURSING IMPLICATIONS

Assessment
- Assess for severe milk allergies; may be allergic to fluticasone vilanterol.
- Assess respiratory status (rate, breath sounds, degree of dyspnea, pulse) before administration. Fluticasone vilanterol is not to be used for acute symptoms or asthma. Short-acting bronchodilator should also be prescribed. If paradoxical bronchospasm (wheezing) occurs, discontinue fluticasone vilanterol immediately and use short-acting bronchodilator.

Potential Nursing Diagnoses
Ineffective airway clearance (Indications)

Implementation
- If transferring patient from systemic corticosteroids, wean slowly after transfer to fluticasone vilanterol.
- Administer 1 inhalation once daily at the same time each day. Follow instructions in Medication Guide for use of inhaler.

Patient/Family Teaching
- Instruct patient on how to use inhaler, to use it once daily at the same time each day and not to stop taking medication without consulting health care professional. Advise patient to rinse mouth without swallowing to reduce risk of oropharyngeal candidiasis. Instruct patient to read Medication Guide prior to use of inhaler and with each Rx refill in case of changes.
- Instruct patient in need for and use of rescue inhaler. Caution patient to notify health care professional if symptoms get worse, need more inhalations than usual from rescue inhaler, decrease in lung function as described by health care professional. Increased use of short-acting agent may signal disease deterioration.
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