

**POLICY WATCH**

I Number 13

**EDITORIAL**

109 GI Disease and NSAID Use—Pincus and Griffin

**CLINICAL STUDIES**

- 213 NSAID-Associated Gastropathy—Fries ET AL
- 223 Risk of GI Bleeding with Corticosteroids—Carson ET AL
- 229 Weekly Erythropoietin Corrects Uremic Anemia—Zappacosta ET AL
- 233 Natriuretic Effect of Nifedipine—Cappuccio ET AL
- 239 Clinical Observations on Niacin Therapy—Henkin ET AL
- 247 CAD Associated with Diagonal Earlobe Crease—Elliott and Karrison
- 255 DNR Orders: Physician and Patient Decision-Making—Ebell ET AL
- 261 Oral Ofloxacin for Acute Bacterial Pneumonia—Sanders ET AL

**SPECIAL ARTICLE**

267 Elevated CSF Pressure in Cryptococcal Meningitis—Denning ET AL

**EDITORIAL**

273 Double Trouble—Kreisberg

**MEDICINE, SCIENCE, AND SOCIETY**

276 In a Stew—LaCombe

**REVIEWS**

- 279 Aorto-esophageal Fistula—Hollander and Quick
- 288 Stroke Prevention in Women—Hershey

**CLINICOPATHOLOGIC CONFERENCE**

293 CPC/Septic Polyarthritis and Acute Renal Failure

**CASE REPORTS**

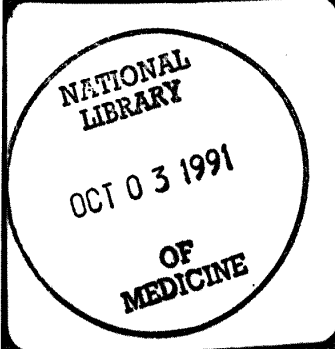
- 300 Severe Skin Disease, Eosinophilia in Patients with HTLV-II—Kalan ET AL
- 310 *M. fortuitum* as Asymptomatic Enlarging Pulmonary Nodule—Peice ET AL

SEPTEMBER 1991

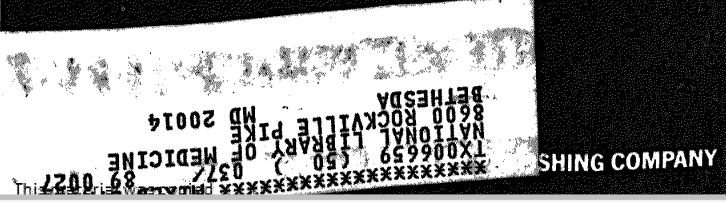
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# The American Journal of Medicine



For Complete Table of Contents, See Pages A4, A8, A14, and A20.



# MAXAIR<sup>®</sup>

pirbuterol acetate inhalation aerosol

Bronchodilator Aerosol  
For Inhalation Only

## BRIEF SUMMARY

**INDICATIONS AND USAGE:** MAXAIR Inhaler is indicated for the prevention and reversal of bronchospasm in patients with reversible bronchospasm including asthma. It may be used with or without concurrent theophylline and/or steroid therapy.

**CONTRAINDICATIONS:** MAXAIR is contraindicated in patients with a history of hypersensitivity to any of its ingredients.

**WARNINGS:** As with other beta adrenergic aerosols, MAXAIR should not be used in excess. Controlled clinical studies and other clinical experience have shown that MAXAIR like other inhaled beta adrenergic agonists can produce a significant cardiovascular effect in some patients, as measured by pulse rate, blood pressure, symptoms, and/or ECG changes. As with other beta adrenergic aerosols, the potential for paradoxical bronchospasm (which can be life threatening) should be kept in mind. If it occurs, the preparation should be discontinued immediately and alternative therapy instituted.

Fatalities have been reported in association with excessive use of inhaled sympathomimetic drugs.

The contents of MAXAIR Inhaler are under pressure. Do not puncture. Do not use or store near heat or open flame. Exposure to temperature above 120°F may cause bursting. Never throw container into fire or incinerator. Keep out of reach of children.

**PRECAUTIONS: General** — Since pirbuterol is a sympathomimetic amine, it should be used with caution in patients with cardiovascular disorders, including ischemic heart disease, hypertension, or cardiac arrhythmias, in patients with hyperthyroidism or diabetes mellitus, and in patients who are unusually responsive to sympathomimetic amines or who have convulsive disorders. Significant changes in systolic and diastolic blood pressure could be expected to occur in some patients after use of any beta adrenergic aerosol bronchodilator.

**Information for Patients** — MAXAIR effects may last up to five hours or longer. It should not be used more often than recommended and the patient should not increase the number of inhalations or frequency of use without first asking the physician. If symptoms of asthma get worse, adverse reactions occur, or the patient does not respond to the usual dose, the patient should be instructed to contact the physician immediately. The patient should be advised to see the illustrated Directions for Use.

**Drug Interactions** — Other beta adrenergic aerosol bronchodilators should not be used concomitantly with MAXAIR because they may have additive effects. Beta adrenergic agonists should be administered with caution to patients being treated with monoamine oxidase inhibitors or tricyclic antidepressants, since the action of beta adrenergic agonists on the vascular system may be potentiated.

**Carcinogenesis, Mutagenesis and Impairment of Fertility** — Pirbuterol hydrochloride administered in the diet to rats for 24 months and to mice for 18 months was free of carcinogenic activity at doses corresponding to 200 times the maximum human inhalation dose. In addition, the intragastric intubation of the drug at doses corresponding to 6250 times the maximum recommended human daily inhalation dose resulted in no increase in tumors in a 12-month rat study. Studies with pirbuterol revealed no evidence of mutagenesis. Reproduction studies in rats revealed no evidence of impaired fertility.

**Teratogenic Effects** — **Pregnancy Category C** — Reproduction studies have been performed in rats and rabbits by the inhalation route at doses up to 12 times (rat) and 16 times (rabbit) the maximum human inhalation dose and have revealed no significant findings. Animal reproduction studies in rats at oral doses up to 300 mg/kg and in rabbits at oral doses up to 100 mg/kg have shown no adverse effect on reproductive behavior, fertility, litter size, peri- and postnatal viability or fetal development. In rabbits at the highest dose level given, 300 mg/kg, abortions and fetal mortality were observed. There are no adequate and well controlled studies in pregnant women and MAXAIR should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

**Nursing Mothers** — It is not known whether MAXAIR is excreted in human milk. Therefore, MAXAIR should be used during nursing only if the potential benefit justifies the possible risk to the newborn.

**Pediatric Use** — MAXAIR Inhaler is not recommended for patients under the age of 12 years because of insufficient clinical data to establish safety and effectiveness.

**ADVERSE REACTIONS:** The following rates of adverse reactions to pirbuterol are based on single and multiple dose clinical trials involving 751 patients; 400 of whom received multiple doses (mean duration of treatment was 2.5 months and maximum was 19 months).

The following were the adverse reactions reported more frequently than 1 in 100 patients: CNS: nervousness (6.9%), tremor (6.0%), headache (2.0%), dizziness (1.2%). Cardiovascular: palpitations (1.7%), tachycardia (1.2%). Respiratory: cough (1.2%). Gastrointestinal: nausea (1.7%).

The following adverse reactions occurred less frequently than 1 in 100 patients and there may be a causal relationship with pirbuterol: CNS: depression, anxiety, confusion, insomnia, weakness, hyperkinesia, syncope.

Cardiovascular: hypotension, skipped beats, chest pain. Gastrointestinal: dry mouth, glossitis, abdominal pain/cramps, anorexia, diarrhea, stomatitis, nausea and vomiting. Ear, Nose and Throat: smell/taste changes, sore throat. Dermatological: rash, pruritus. Other: numbness in extremities, alopecia, bruising, fatigue, edema, weight gain, flushing.

Other adverse reactions were reported with a frequency of less than 1 in 100 patients but a causal relationship between pirbuterol and the reaction could not be determined: migraine, productive cough, wheezing, and dermatitis.

The following rates of adverse reactions during three-month controlled clinical trials involving 310 patients are noted. The table does not include mild reactions.

PERCENT OF PATIENTS WITH MODERATE TO SEVERE ADVERSE REACTIONS					
Reaction	Pirbuterol N = 157	Metaproterenol N = 153	Reaction	Pirbuterol N = 157	Metaproterenol N = 153
<b>Central Nervous System</b>			<b>Gastrointestinal</b>		
tremors	1.3%	3.3%	nausea	1.3%	2.0%
nervousness	4.5%	2.6%	diarrhea	1.3%	0.7%
headache	1.3%	2.0%	dry mouth	1.3%	1.3%
weakness	.0%	1.3%	vomiting	.0%	0.7%
drowsiness	.0%	0.7%	<b>Dermatological</b>		
dizziness	0.6%	.0%	skin reaction	.0%	0.7%
<b>Cardiovascular</b>			rash	.0%	1.3%
palpitations	1.3%	1.3%	<b>Other</b>		
tachycardia	1.3%	2.0%	bruising	0.6%	.0%
<b>Respiratory</b>			smell/taste change	0.6%	.0%
chest pain/vightness	1.3%	.0%	backache	.0%	0.7%
cough	.0%	0.7%	fatigue	.0%	0.7%
			hoarseness	.0%	0.7%
			nasal congestion	.0%	0.7%

**OVERDOSAGE:** The expected symptoms with overdosage are those of excessive beta-stimulation and/or any of the symptoms listed under adverse reactions, e.g., angina, hypertension or hypotension, arrhythmias, nervousness, headache, tremor, dry mouth, palpitation, nausea, dizziness, fatigue, malaise, and insomnia.

Treatment consists of discontinuation of pirbuterol together with appropriate symptomatic therapy.

The oral acute lethal dose in male and female rats and mice was greater than 2000 mg base/kg. The aerosol acute lethal dose was not determined.

**CAUTION:** Federal law prohibits dispensing without prescription.

Store between 15° and 30°C (59° to 86°F).

For full prescribing information, see package insert.

PIR-4

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## **POLICY WATCH**

I  
Number 13

## **EDITORIAL**

209  
**Gastrointestinal Disease Associated with Nonsteroidal Anti-Inflammatory Drugs: New Insights from Observational Studies and Functional Status Questionnaires**  
Theodore Pincus, Marie Griffin

## **CLINICAL STUDIES**

213  
**Nonsteroidal Anti-Inflammatory Drug-Associated Gastropathy: Incidence and Risk Factor Models**  
James F. Fries, Catherine A. Williams, Daniel A. Bloch, Beat A. Michel  
The individual clinical variables appearing to be predictive of serious GI events in this study included age, disability, NSAID dose, previous GI hospitalization, prior GI complaints with NSAIDs, and use of prednisone, antacids, or H<sub>2</sub>-antagonists.

223  
**The Low Risk of Upper Gastrointestinal Bleeding in Patients Dispensed Corticosteroids**  
Jeffrey L. Carson, Brian L. Strom, Rita Schinnar, Amy Duff, Ellen Sim  
This study demonstrates that the incidence of bleeding in patients exposed to corticosteroids is very low and suggests that prophylactic therapy should be reserved for high-risk patients, if it is to be used at all.



229

**Weekly Subcutaneous Recombinant Human Erythropoietin Corrects Anemia of Progressive Renal Failure**

Anthony R. Zappacosta, Susan T. Perras, Alisa Bell

Subcutaneous rHuEPO administered weekly was found to correct anemia in predialysis and peritoneal dialysis patients. Weekly dosing is more convenient for patients and may be less costly for Medicare providers.

233

**Acute and Sustained Changes in Sodium Balance During Nifedipine Treatment in Essential Hypertension**

Francesco P. Cappuccio, Nirmala D. Markandu, Giuseppe A. Sagnella, Donald R.J. Singer, Michelle A. Miller, Martin G. Buckley, Graham A. MacGregor

The GITS formulation of nifedipine was shown not only to cause a reduction in blood pressure in patients with essential hypertension but to cause an acute increase in both sodium and water excretion with significant declines in plasma ANP, significant increases in PRA and aldosterone, and a significant weight loss. After 1 month of treatment, nifedipine was withdrawn, causing significant sodium and water retention, a significant weight gain, and a return of hormone levels to baseline.

239

**Niacin Revisited: Clinical Observations on an Important but Underutilized Drug**

Yaakov Henkin, Albert Oberman, David C. Hurst, Jere P. Segrest

The authors examine their experience with niacin, alone and in combination with other drugs, in the treatment of 82 dyslipidemic patients. Although niacin was generally well tolerated and efficacious, they report a high incidence of hyperglycemia in heart transplant recipients, as well as a high incidence of hepatitis associated with sustained-release preparations. The authors conclude that the availability of sustained-release niacin as a nonprescription drug is unjustified and should be reexamined.

247

**Increased All-Cause and Cardiac Morbidity and Mortality Associated with the Diagonal Earlobe Crease: A Prospective Cohort Study**

William J. Elliott, Theodore Karrison

The finding that patients with diagonal ELCs may have higher cardiac morbidity and mortality rates could be useful in identifying patients who need further screening for cardiac disease, or who may need further control of modifiable cardiac risk factors. This may be particularly helpful in the case of identifying those who might otherwise have "sudden death" as the first symptom of CAD.

255

**The Do-Not-Resuscitate Order: A Comparison of Physician and Patient Preferences and Decision-Making**

Mark H. Ebell, David J. Doukas, Mindy A. Smith

A comparison of the decision-making and preferences regarding DNR orders of a group of family physicians with a group of outpatients from a family practice center shows that there are significant similarities and differences in the way physicians and patients make these decisions.

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