THOMAS WESLEY ALLEN, D.O.
Editor in Chief

Whole bowel irrigation: Better antidote than oral activated charcoal?

Activated charcoal alone remains the most effective means to treat drug overdose. In this study, three volunteers ingested 650 mg of aspirin and were randomly assigned to one of the following treatment groups: 24-hour urine collection alone; whole-bowel irrigation with a polyethylene glycol solution; 50 g oral activated charcoal followed by whole-bowel irrigation; or activated charcoal alone.

Whole-bowel irrigation with charcoal reduced aspirin absorption 33% while charcoal alone reduced absorption 79%. Furthermore, vomiting usually accompanied the former method.

Rosenberg PJ, Livingstone DJ, McLellan BA, et al: Effect of whole-bowel irrigation on the antidotal efficacy of oral activated charcoal. *Ann Emerg Med* 1988;17:681-683.

Protection against traveler's diarrhea

Milk immunoglobulin concentrate may prove an effective prophylaxis against traveler's diarrhea from *Escherichia coll.*

In a double-blind, controlled study, ten volunteers were given a bovine milk immunoglobulin concentrate with antibodies against enterotoxigenic *E coli* three times a day. Ten controls received a similar concentrate except that it lacked these specific antibody titers. On the third treatment day, both groups were given 10^9 colony-forming terotoxigenic *E coli* units.

None of the study group volunteers had diarrhea when exposed to the bacteria. However, one subject from the control group had watery stools, anorexia, malaise, cramps, and vomiting.

While the bovine milk immunoglobulin concentrate with antibodies against enterotoxigenic *E coli* was effective against the bacteria, exactly when it should be administered—before or after coming in contact with the bacteria—remains unknown and, therefore, warrants further study.

Tacket CO, Losonsky G, Link H, et al: Protection by milk immunoglobulin concentrate against oral challenge with enterotoxigenic *Escherichia coli*. *New Engl J Med* 1988;318:1240-1243.

Efficacy of Nd:YAG laser bronchoscopy

Benign and carcinoid tumors were cured in many instances with Nd:YAG laser treatment. This laser application improved airway gauge 92% of the time in malignant tumors. Cumulative survival at six months was 50% while one year survival rates were 26%.

These findings were based on a five-year Italian experience in which 1,000 patients underwent such laser therapy. A rigid bronchoscope was used in 92% of treatments while a flexible device was employed in the remaining cases. Based on these statistics, the researchers found Nd:YAG laser bronchoscopy a safe, effective modality in treating obstructive lesions of the tracheobronchial tree.

Cavaliere S, Foccoli P, and Farina PL: Nd:YAG laser bronchoscopy: A five-year experience with 1,396 applications in 1,000 patients. *Chest* 1988;94:15-21.

Transplant in pulmonary fibrosis

Single-lung transplant has been shown to be a success in patients with pulmonary fibrosis.

Surgeons at the Toronto Lung Transplant Group have performed 11 single-lung transplantation for end-stage pulmonary fibrosis since November 1983. Two patients died early in the post operative period, the first from progressive pneumonia and the second from venous air embolism. One patient survived seven months before dying from rejection-related complications. However, eight transplant recipients have remained alive up to 44 months after surgery. They had good oxygenation on room air and were able to perform everyday activities.

Successful single-lung transplantation relies on careful patient and donor selection. Likewise, while either the right or left lung may be replaced, the latter proves technically easier to perform.

Based on these preliminary findings, the authors believe single-lung transplantations could achieve similiar survival rates to cardiac, renal, and hepatic transplants.

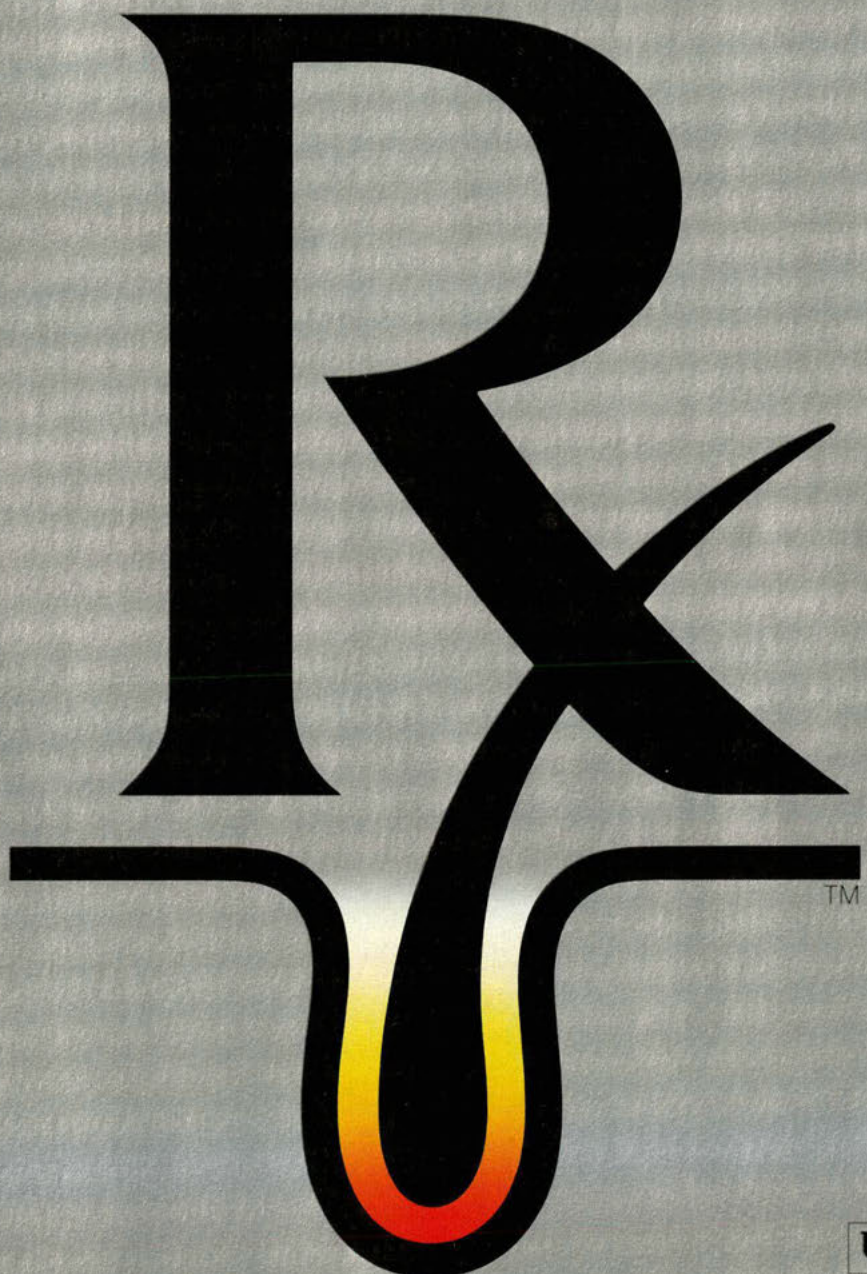
Experience with single-lung transplantation for pulmonary fibrosis. The Toronto Lung Transplant Group. *JAMA* 1988;259:2258-2262.

Ulcers and surreptitious use of salicylates

Salicylate serum levels should be determined in patients who have recurring, chronic gastroduodenal ulcers despite having undergone surgery.

Five similar cases are reported here in which patients experienced pain, intestinal obstruction, and bleeding. Four patients underwent surgery because medical therapy proved ineffective. Nonetheless, their ulcers persisted. All patients denied taking any acetylsalicylic acid (ASA); however, detectable ASA levels were found in all blood samples. Psychiatric evaluation serves as an important aspect to treating patients who continually abuse such agents.

Upjohn Introduces
THE FIRST PRESCRIPTION MEDICATION
PROVED EFFECTIVE
FOR MALE PATTERN BALDNESS
OF THE VERTEX



Upjohn

NEW Rogaine® TOPICAL SOLUTION minoxidil 2%

New ROGAINE Topical Solution 2% is the *first* prescription medication proved effective for male pattern baldness of the vertex. There was no evidence of effectiveness on frontal balding. Evidence of growth was demonstrated by objective hair counts and physician and patient evaluations of 1,431 patients in 27 centers across the United States. This landmark study was divided into two phases: The first phase compared ROGAINE with placebo in a double-blind protocol for four months; the second phase, non-placebo-controlled, evaluated continuous b.i.d. application of ROGAINE for an additional eight months.

PATIENTS' EVALUATIONS OF HAIR GROWTH OVER 12 MONTHS

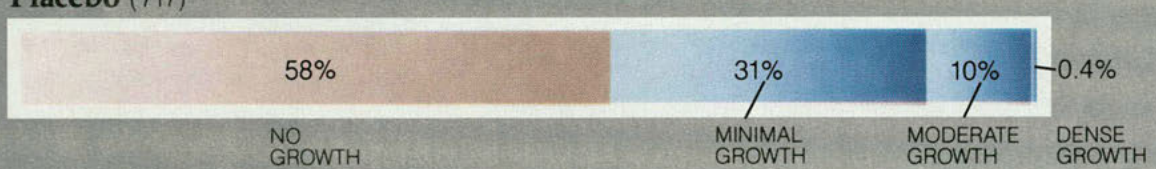
Patients evaluated their response to ROGAINE Topical Solution (minoxidil 2%) or placebo each month for four months. They judged response to be no growth or minimal, moderate, or dense growth.

Four-Month Phase

PATIENT EVALUATION OF HAIR GROWTH AT FOUR MONTHS

Rogaine (714)

Placebo (717)



Non-Placebo-Controlled Continuation Phase

In addition, after the placebo group was discontinued, continuous application of ROGAINE over an additional eight months was evaluated to determine growth.

PATIENT EVALUATION OF HAIR GROWTH AT 12 MONTHS

Rogaine (619)

FOR THE FIRST TIME...OBJECTIVE EVIDENCE OF HAIR GROWTH IN MALE PATTERN BALDNESS OF THE VERTEX

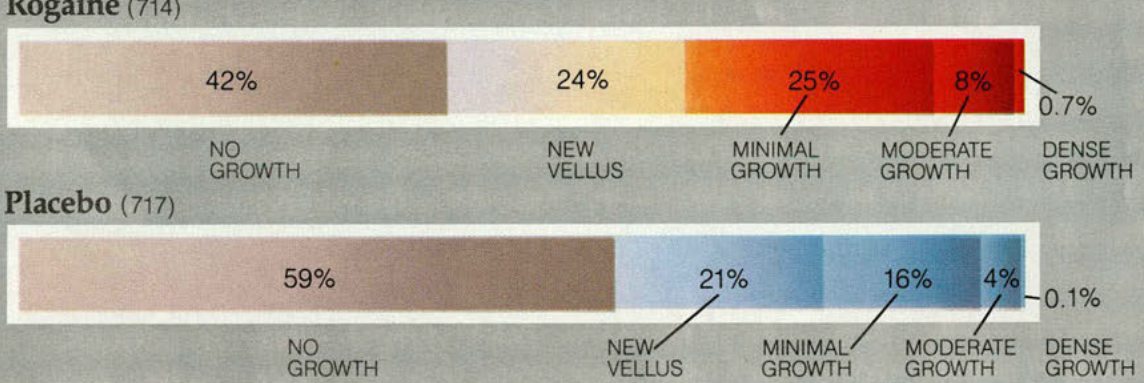
INVESTIGATORS' EVALUATIONS OF HAIR GROWTH OVER 12 MONTHS

Investigators evaluated patients on ROGAINE Topical Solution (minoxidil 2%) or placebo each month for four months. Response was judged to be no growth, new vellus (baby) hair, or minimal, moderate, or dense growth. (Photographs on following pages represent evaluations of minimal, moderate, and dense growth.) In addition, after the placebo group was discontinued, continuous application of ROGAINE over an additional eight months was evaluated to determine if nonvellus growth could be sustained.

Four-Month Phase

At the end of four months, 34% of patients treated with ROGAINE were evaluated by the investigators as showing nonvellus growth, while 20% showed nonvellus growth with placebo, a highly significant difference ($P<.0005$).

INVESTIGATOR EVALUATION OF HAIR GROWTH AT FOUR MONTHS



Non-Placebo-Controlled Continuation Phase

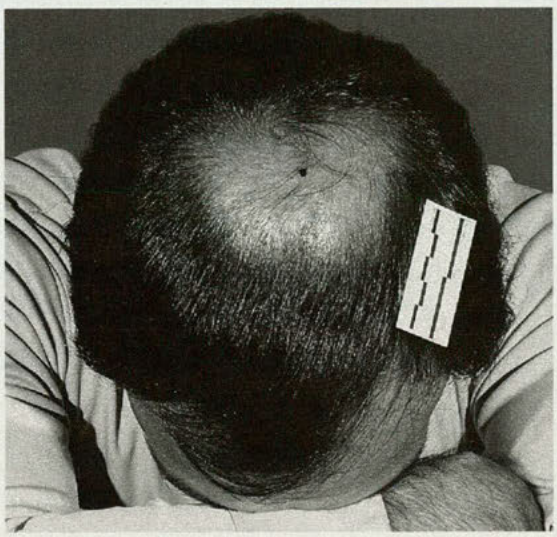
After 12 months, dense growth was observed in 8% of the 619 patients treated with ROGAINE, moderate growth in 31%, and minimal growth in 37%. Approximately one fourth of patients showed only vellus hair growth or no growth.

INVESTIGATOR EVALUATION OF HAIR GROWTH AT 12 MONTHS

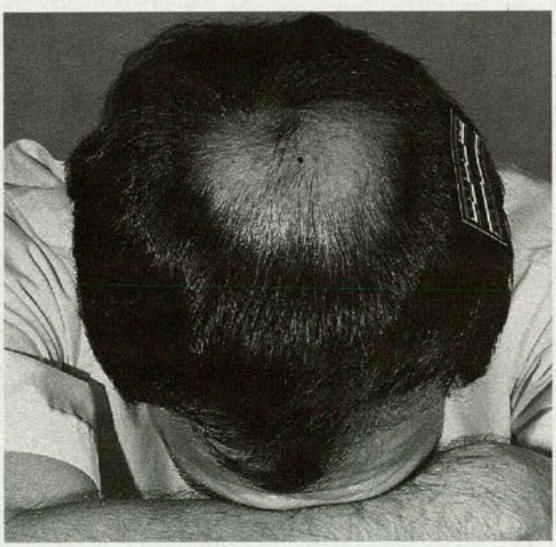
Please see next to last page for brief summary of prescribing information.

TURN PAGE FOR PHOTOGRAPHIC EVALUATIONS OF HAIR GROWTH

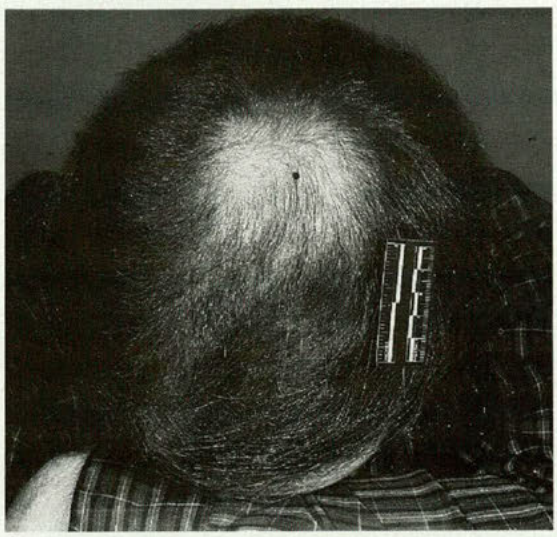
EXAMPLES OF MINIMAL, MODERATE, AND DENSE GROWTH AS EVALUATED BY INVESTIGATORS



START OF STUDY



MINIMAL GROWTH



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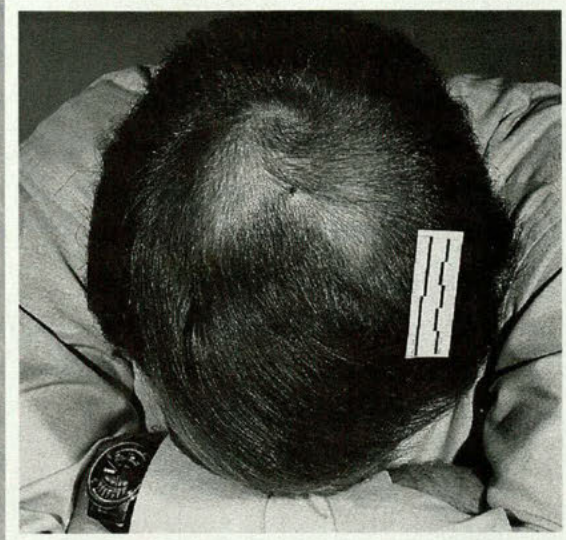

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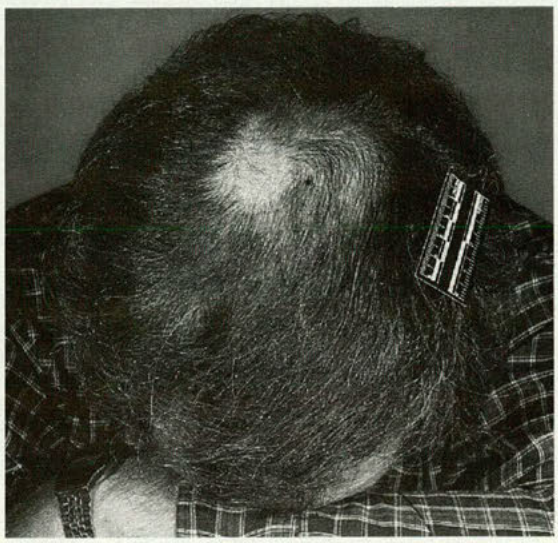
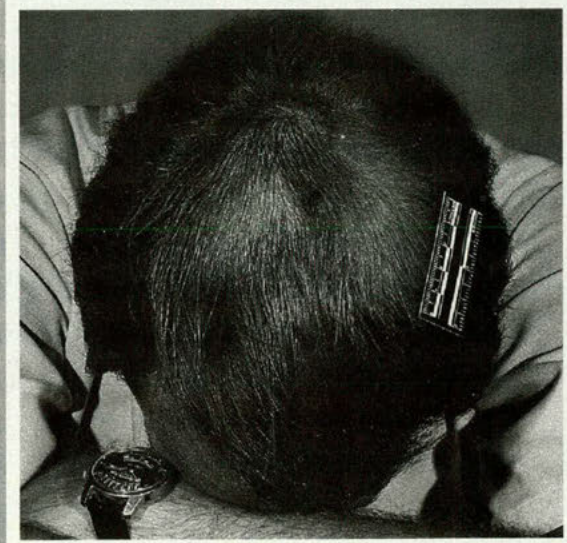


MODERATE GROWTH



DENSE GROWTH

NEW

Rogaine

TOPICAL SOLUTION

minoxidil 2%

TURN PAGE FOR HAIR COUNT EVALUATION

Please see next to last page for brief summary of prescribing information.

HAIR COUNTS CONFIRM HAIR GROWTH OVER 12 MONTHS

Monthly Hair Count Evaluation

Each month, nonvellus (normal) hairs were counted within a one-inch circle drawn on the vertex of the scalp of every patient, resulting in a mean nonvellus hair count.

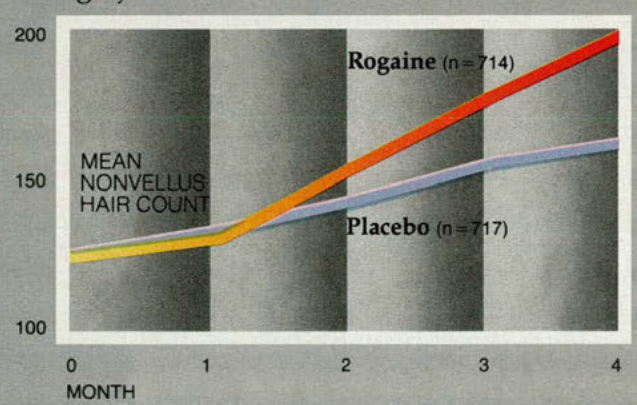
Four-Month Phase

ROGAINE was shown to be significantly superior to placebo ($P<.0005$). Mean nonvellus hair count at the end of month 4 with ROGAINE was 192 versus 121 at baseline—an increase of 59%. Mean nonvellus hair count with placebo was 159 versus 120 at baseline—an increase of 33%.

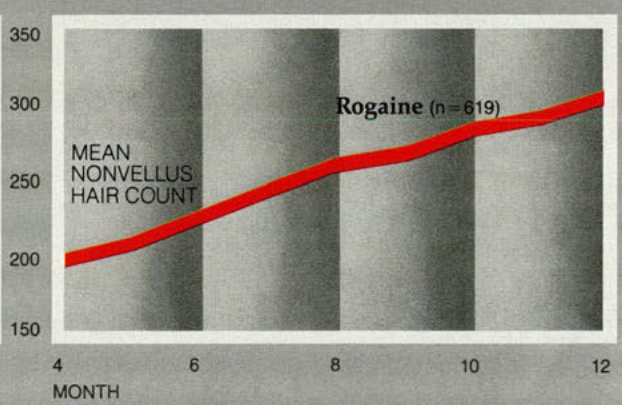
Non-Placebo-Controlled Continuation Phase

Continuous application of ROGAINE for an additional eight months resulted in sustained growth of nonvellus hair. Mean hair count increased 58%, from 192 at the four-month baseline to 304, confirming growth seen in the earlier phase of the study.

Four-Month Phase–
Significant Growth With ROGAINE



Non-Placebo-Controlled Continuation Phase–
Sustained Growth With ROGAINE



PATIENT CRITERIA FAVORING GROWTH

One cannot predict the response to ROGAINE in any given patient, but certain criteria favoring growth were seen during the study.

AGE

Younger patients showed better growth with ROGAINE.

DURATION OF BALDNESS

Patients balding *less than ten years* showed better growth with ROGAINE.

DIAMETER OF BALDING AREA

Patients with a balding area *less than 10 cm* (about 4 inches) showed better growth with ROGAINE.

LONG-TERM TREATMENT NECESSARY FOR SUSTAINED GROWTH

Daily b.i.d. applications of ROGAINE for four months or longer are usually necessary before evidence of growth is seen in most patients. When patients were followed for one year, hair growth continued.

Newly grown hair returns to the untreated state three to four months after cessation of therapy with ROGAINE.

Please see next to last page for brief summary of prescribing information.

NEW
Rogaine
TOPICAL SOLUTION
minoxidil 2%

TURN PAGE FOR INFORMATION ON SIDE EFFECTS

DATA FROM 5,891 PATIENTS SHOW A FAVORABLE SIDE-EFFECT PROFILE

INCIDENCE OF ADVERSE REACTIONS IS LOW

Dermatologic reactions were more common in the group treated with ROGAINE (5.27%) compared with placebo (3.44%). Otherwise, no individual reaction or reactions grouped by body systems appeared to be increased in the minoxidil-treated patients.

MEDICAL EVENT PERCENT OCCURRENCE BY BODY SYSTEM IN THE PLACEBO CONTROL CLINICAL TRIALS INVOLVING MINOXIDIL TOPICAL SOLUTION—ALL PATIENTS ENROLLED

	MINOXIDIL SOLN N = 3510 (4–6 MONTHS)	PLACEBO N = 2381 (4–6 MONTHS)
BODY SYSTEM	% OCC.	% OCC.
RESPIRATORY	5.95	6.51
DERMATOLOGICAL	5.27	3.44
CARDIOVASCULAR	1.28	1.18

FEW PATIENTS DISCONTINUED THERAPY

At four months, 1.3% of patients treated with ROGAINE discontinued therapy because of side effects, compared with 1% of patients on placebo. After 12 months, a total of 3.1% of the patients treated with ROGAINE discontinued therapy because of side effects.

POTENTIAL ADVERSE EFFECTS

Extensive use of topical minoxidil has not revealed evidence that enough minoxidil is absorbed to have systemic effects. Greater absorption because of misuse or individual variability or unusual sensitivity could lead, at least theoretically, to a systemic effect, and patients need to be aware of this.

Experience with oral minoxidil when used for hypertension has shown the following major cardiovascular effects:

— salt and water retention, generalized and local edema
— pericardial effusion, pericarditis, tamponade
— tachycardia
— increased frequency of angina or new onset of angina

MINIMAL ABSORPTION RESULTS IN CONSISTENTLY LOW SERUM LEVELS OF MINOXIDIL

The failure to detect evidence of systemic effects during treatment reflects the poor absorption of topical minoxidil. In a study of patients with hypertension, mean minoxidil concentrations after 1 mL b.i.d. of 2% topical minoxidil (1.7 ng/mL) were 1/20 the concentrations seen after daily oral doses of 2.5 mg (32.8 ng/mL) or 5 mg (59.2 ng/mL).

Before starting a patient on ROGAINE, the physician should ascertain that the patient has a healthy, normal scalp. Local abrasion or dermatitis may increase absorption and hence increase the risk of side effects. Greater absorption because of misuse or individual variability or unusual sensitivity could lead, at least theoretically, to a systemic effect.

PATIENTS WITH CARDIOVASCULAR DISEASE

Patients with a history of underlying heart disease should be aware that adverse effects in them might be especially serious. Patients should be alerted to the possibility of tachycardia and fluid retention and should watch for, and be monitored for, increased heart rate and weight gain or other systemic effects. No drug interactions have been reported with ROGAINE but, theoretically, orthostatic hypotension may occur in patients taking guanethidine.

No Appreciable Pharmacologic Response in Untreated Hypertensives
A well-controlled multicenter study of patients with *untreated* hypertension was conducted to determine if ROGAINE had an effect on blood pressure or pulse rate or caused fluid accumulation. No appreciable pharmacologic response was seen after application of ROGAINE twice daily for four days.

Please see next to last page for brief summary of prescribing information.

NEW
Rogaine
TOPICAL SOLUTION
minoxidil 2%

TURN PAGE FOR DOSAGE INFORMATION AND APPLICATION

THE FIRST AND ONLY STANDARDIZED FORMULATION FOR HAIR GROWTH

ROGAINE Topical Solution (minoxidil 2%) is a cosmetically elegant, consistent formulation. ROGAINE is attractively packaged with a choice of applicators designed to suit individual needs (see below). Each 60-mL bottle of ROGAINE provides enough medication for one month's therapy.

A STRICT REGIMEN: TWICE A DAY, EVERY DAY

One milliliter of ROGAINE should be applied to the total affected areas of the scalp twice daily. Hair and scalp should be dry before application.

CONTINUED USE NECESSARY

Patients must follow the regimen for ROGAINE faithfully and understand that twice-daily application for four months or longer may be required before hair growth can be expected. The studies also showed that further growth continued from month 5 through month 12. There was no evidence of effectiveness on frontal balding.

Continuous use is necessary to maintain growth. Newly grown hair returns to the untreated state three to four months after cessation of treatment.

Each prescription of ROGAINE comes with three complimentary, disposable applicator tips to suit individual needs: The regular spray attachment applies solution to large areas of the scalp; the extended spray attachment applies solution to small scalp areas or under hair; the rub-on applicator tip aids in spreading solution directly on the scalp.

CONTRAINDICATIONS
A history of hypersensitivity to minoxidil, propylene glycol or ethanol.

WARNINGS
1. Need for normal scalp
Before starting treatment, make sure that the patient has a normal, healthy scalp. Local abrasion or dermatitis may increase absorption and hence the risk of side effects.
2. Potential adverse effects
Although extensive use of topical minoxidil has not revealed evidence that enough minoxidil is absorbed to have systemic effects, greater absorption due to misuse, individual variability or unusual sensitivity could, at least theoretically, produce a systemic effect.
Experience with oral minoxidil has shown the following major cardiovascular effects (Review the package insert for LONITEN® Tablets for details):
—salt and water retention, generalized and local edema
—pericardial effusion, pericarditis, tamponade
—tachycardia
—increased incidence of angina or new onset of angina
Patients with underlying heart disease, including coronary artery disease and congestive heart failure, would be at particular risk of these potential effects. Additive effects could also emerge in patients being treated for hypertension.

Potential patients should have a history and physical, should be advised of potential risks and a risk benefit decision should be made. Heart patients should realize that adverse effects may be especially serious. Alert patients to the possibility of tachycardia and fluid retention, and monitor for increased heart rate, weight gain or other systemic effects.

PRECAUTIONS
General Precautions
Patients should be monitored one month after starting ROGAINE and at least every six months afterward. Discontinue ROGAINE if systemic effects occur. The alcohol base will burn and irritate the eye. If ROGAINE reaches sensitive surfaces (eg, eye, abraded skin and mucous membranes) bathe with copious cool water.

Avoid inhaling the spray.

Do not use in conjunction with other topical agents such as corticosteroids, retinoids and petrolatum or agents that enhance percutaneous absorption. ROGAINE is for topical use only. Each ml contains 20 mg minoxidil and accidental ingestion could cause adverse systemic effects.

Decreased integrity of the epidermal barrier caused by inflammation or disease of the skin, eg, excoriations, psoriasis or severe sunburn, may increase minoxidil absorption.
Patient Information
A patient information leaflet is included with each package and in the full product information.
Drug Interactions
No drug interactions are known. Theoretically, absorbed minoxidil may potentiate orthostatic hypotension in patients taking guanethidine.
Carcinogenesis, Mutagenesis and Impairment of Fertility
No carcinogenicity was found with topical application. There is a suggestion that oral administration may be associated with an increased incidence of malignant lymphomas in female mice and hepatic nodules in male mice. In rats, there was a dose dependent reduction in conception rate.
Pregnancy Category C. ROGAINE should not be used by pregnant women.
Labor and Delivery: The effects are not known.
Nursing Mothers: ROGAINE should not be administered.
Pediatric Use: Safety and effectiveness have not been established under age 18.

ADVERSE REACTIONS
ROGAINE has been used by 3510 patients in placebo controlled trials. Except for dermatologic events, which were more common in the minoxidil group, no individual reaction or body system grouping seemed to be increased in the minoxidil treated group.

Medical Event Percent Occurrence By Body System In The Placebo Control Clinical Trials Involving Minoxidil Topical Solution —All Patients Enrolled

	Minoxidil Soln N = 3510 (4-6 months)		Placebo N = 2381 (4-6 months)	
BODY SYSTEM	**# PATS.**	**% OCC.**	**# PATS.**	**% OCC.**
RESPIRATORY (bronchitis, upper respiratory infection, sinusitis)	209	5.95	155	6.51
DERMATOLOGICAL (irritant dermatitis, allergic contact dermatitis)	185	5.27	82	3.44
GASTROINTESTINAL (diarrhea, nausea, vomiting)	120	3.42	117	4.91
NEUROLOGY (headache, dizziness, faintness, lightheadedness)	90	2.56	71	2.98
MUSCULOSKELETAL (fractures, back pain, tendinitis)	76	2.17	43	1.81
CARDIOVASCULAR (edema, chest pain, blood pressure increases/decreases, palpitations, pulse rate increases/decreases)	45	1.28	28	1.18
ALLERGY (non-specific allergic reactions, hives, allergic rhinitis, facial swelling, and sensitivity)	36	1.03	15	0.63
SPECIAL SENSES (conjunctivitis, ear infections, vertigo)	33	0.94	26	1.09
METABOLIC-NUTRITIONAL (edema, weight gain)	21	0.60	19	0.80
URINARY TRACT (urinary tract infections renal calculi urethritis)	16	0.46	15	0.63
GENITAL TRACT (prostatitis, epididymitis)	16	0.46	10	0.42
PSYCHIATRIC (anxiety, depression, fatigue)	10	0.28	21	0.88
HEMATOLOGY (lymphadenopathy, thrombocytopenia)	8	0.23	6	0.25
ENDOCRINE	3	0.09	4	0.17

Patients have been followed for up to 5 years and there has been no change in incidence or severity of reported reactions.

Additional events reported in postmarketing clinical experience include: eczema, hypertrichosis, local erythema, pruritus, dry skin/scalp flaking, sexual dysfunction, visual disturbances including decreased visual acuity, exacerbation of hair loss, alopecia.

DOSAGE AND ADMINISTRATION
Hair and scalp should be dry before application. 1 ml should be applied to the total affected areas twice daily. Total daily dose should not exceed 2 ml. If the fingertips are used to facilitate drug application, wash the hands afterwards.

HOW SUPPLIED
60 ml bottle with multiple applicators NDC 0009-3367-05
Caution: Federal law prohibits dispensing without a prescription.

NEW
Rogaine
TOPICAL SOLUTION
minoxidil 2%

NEW

Rogaine

TOPICAL SOLUTION

minoxidil 2%

THE FIRST PRESCRIPTION MEDICATION PROVED EFFECTIVE FOR MALE PATTERN BALDNESS OF THE VERTEX

Upjohn

The Upjohn Company
Kalamazoo, Michigan 49001, USA

J-6430

August 1988

Please see preceding page for brief summary of prescribing information.

Perrault J, Fleming CR, and Dozois RR: Surreptitious use of salicylates: A cause of chronic recurrent gastroduodenal ulcers. *Mayo Clin Proc* 1988;63:337-342.

Effective diagnosis of pneumonia in the immunocompromised child

Flexible fiber optic bronchoscopy with bronchoalveolar lavage serves an appropriate diagnostic modality for children with pneumonia. Of the seven children on whom this procedure was performed, six definitive diagnoses were made that included *Pneumocystis carinii*, *Candida albicans*, and cytomegalovirus.

An indwelling endotracheal tube was employed in four patients requiring mechanical ventilation during bronchoscopy. In three the procedure was performed transnasally. Cardiorespiratory monitoring occurred in all patients. Likewise all were monitored noninvasively for oxyhemoglobin saturation. No complications were noted during all procedures.

Ideally, flexible fiber optic bronchoscopy with bronchoalveolar lavage should be performed before respiratory failure occurs.

The seven children on whom this procedure was performed were either chemotherapy recipients or undergoing immunosuppressive therapy for transplantation or similar immunodeficiencies.

Frankel LR, Smith DW, and Lewiston NJ: Bronchoalveolar lavage for diagnosis of pneumonia in the immunocompromised child. *Pediatrics* 1988;81:785-788.

Heterosexual contact and HIV-related immunologic thrombocytopenic purpura

A careful social-sexual history should be taken in patients with unexplained thrombocytopenia.

Four cases of HIV-related immunologic thrombocytopenic purpura are reported here. All were spread through heterosexual contact. Transmission was evenly divided via male and female. Two came in sexual contact with current or former drug abusers; one with a blood transfusion recipient; and one unexplained transmission. All were HIV-seropositive and had platelet-associated IgG, C3C4, and IgM values considerably higher than found in classic cases of autoimmune thrombocytopenia.

Karpatkin S, Nardi MA, and Hymes KB: Immunologic thrombocytopenic purpura after heterosexual transmission of human immunodeficiency virus (HIV). *Ann Intern Med* 1988;109:190-193.

Autism and hypoplastic cerebellar vermis

Abnormally small cerebellar vermal lobules VI and VII were found in autistic patients who underwent magnetic resonance scanning. These were attributed to developmental hypoplasia. However, adjacent vermal lobules I to V, were normal in size.

Eighteen autistic patients, who did not have other neurological or genetic diseases or severe retardation, comprised the study group. Twelve normal subjects served as controls.

The authors conclude that cerebellar abnormality may not only directly affect cognitive ability, but because of its connections to the brain stem, hypothalamus, and thalamus, could indirectly affect autonomic, sensory, and motor activities. Likewise, neural damage accompanying cerebellar abnormality may explain the etiology of autism.

Courchesne E, Yeung-Courchesne R, Press GA, et al: Hypoplasia of cerebellar vermal lobules VI and VII in autism. *New Engl J Med* 1988;318:1349-1354.

Breast implants complicating mammography

In a study of six women who received breast augmentations, an average of 38.1% of glandular tissue was obscured by the opaque implants when viewed by mammography. This threatens early accurate diagnosis of breast cancer. Until a superior device becomes available for use in these cases, all women, especially those with a familial history of breast cancer, should be discouraged from having breast augmentations.

Mammography remains the most accurate diagnostic method for women without breast implants.

Hayes Jr H, Vandergrift J, and Diner WC: Mammography and breast implants. *Plast Reconstr Surg* 1988;82:1-6

Determining respiratory muscle fatigue in acute respiratory failure patients

Tracheal occlusion pressure $P_{0.1}$ permits accurate assessment of respiratory muscle fatigue in patients with acute respiratory failure who have chronic obstructive pulmonary disease. If respiratory muscle fatigue is diagnosed, weaning from mechanical ventilation should not occur even if arterial blood gases and clinical status improve.

All 16 patients intubated for ventilation included in this study exhibited a marked increase in $P_{0.1}$ during the first day of acute ventilatory failure. This remained stable during weaning. However, before extubation, $P_{0.1}$ decreased in 11 patients. The high-to-low diaphragm ratio rapidly fell during the first day of weaning.

The remaining patients exhibited little change from the onset of acute failure. Furthermore, the high-to-low diaphragm ratio remained low. Thus, reintubation was necessary within two to six days for this group.

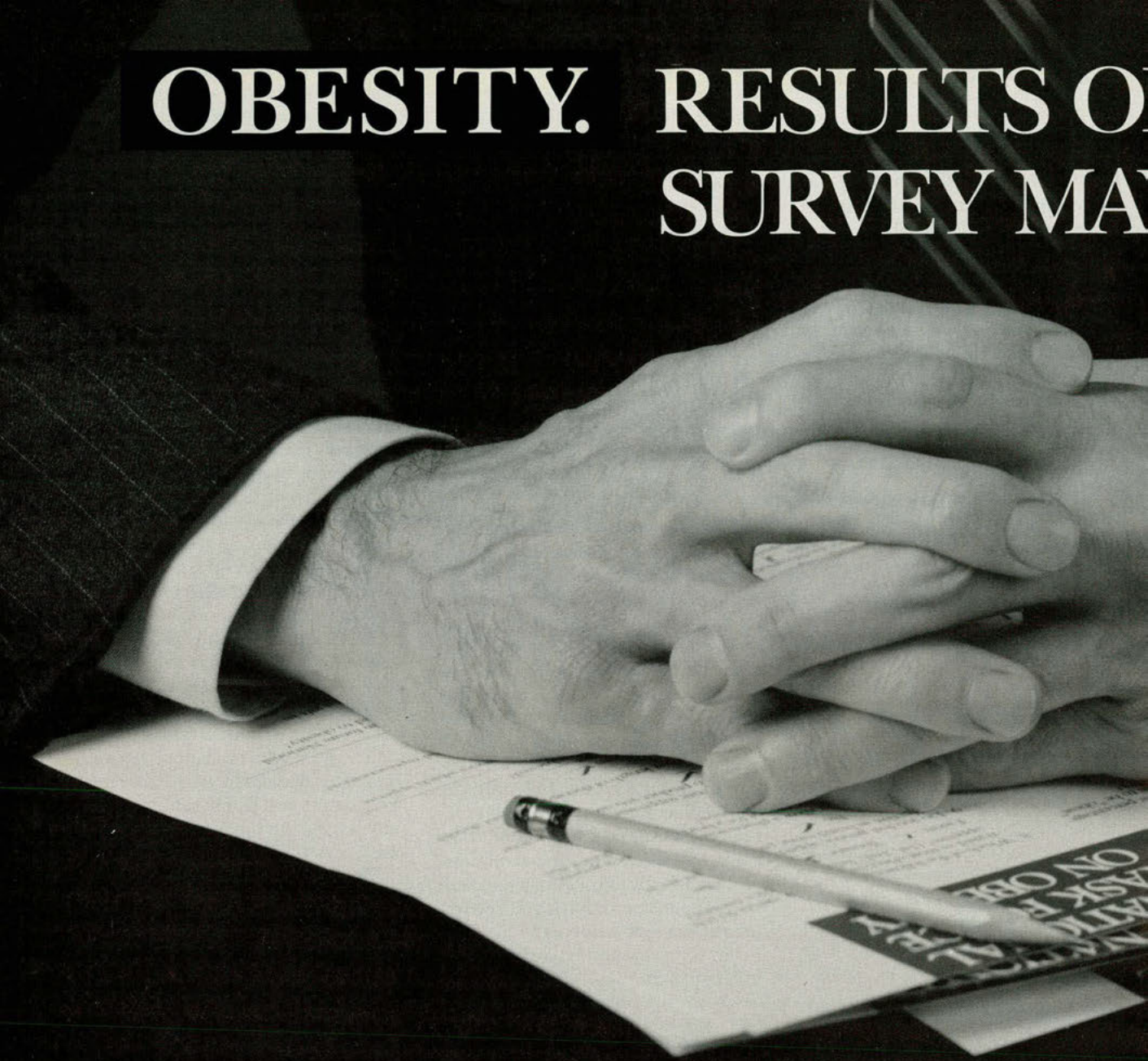
Both groups showed substantial improvement in blood gases during room air breathing.

Murciano D, Boczkowski J, Lecocguic Y, et al: Tracheal occlusion pressure: A simple index to monitor respiratory muscle fatigue during acute respiratory failure in patients with chronic obstructive pulmonary disease. *Ann Intern Med* 1988;108:800-805.

Diabetics and acute cholecystitis

Morbidity and infection-related complications are higher for diabetics who underwent surgery for acute cholecystitis than nondiabetics. Yet, no differences were found in the length of hospital stay, seriousness

OBESITY. RESULTS O
SURVEY MA



According to responses from over 6,800 physicians, obesity has become a serious health threat.

A problem so significant... 77% of responding physicians view it as the single most prevalent chronic condition in the US.[1]

A problem so widespread... 88% of physicians realize it afflicts at least 1 out of 3 American adults.[1,2]

A "disease" so serious... 81% of physicians acknowledge it is related either directly or indirectly, to 20% or more of the nation's mortality.[1,3]

A NATIONWIDE
URPRISE YOU.

ASTIN® (phentermine HCl) can
elp. It effectively curbs hunger–
e critical first step. In fact, *46% of
sponding physicians prefer FASTIN
er two other well-known anorectics.*

s an adjunct to prescribed diet,
xercise, and counseling, FASTIN
n help provide the early motiva-
on many patients need to over-
ome obesity…and its serious
ealth risks.

FASTIN® (IV)
(phentermine HCl)
30 mg capsules

Preferred by physicians over other well-known anorectics.[1]

Please see summary of prescribing information on next page.

References:
1. Results based on 6,831 physician responses to a recent survey (note: Not all responding physicians answered all questions). Data on file, Beecham Laboratories.
2. Weiss ST: Obesity: Pathogenesis, consequences, and approaches to treatment. *Psychiatr Clin North Am* 1984;7:307-319.
3. Eastman P: Call obesity "a killer", costing the US $30.6 billion a year. *Medical Tribune* 1985;(March 20):26.

of surgery, or pathological findings in both groups.

Diabetics suffered more morbidity than controls —38.9% vs 20.8%. Likewise complications occurred more frequently in the former than latter group—19.4% vs 6.9%. Just over 4% of the diabetics experienced mortality whereas no deaths occurred in the nondiabetics.

These findings were the result of a prospective, case-control study of 72 diabetics and 72 controls, matched for age, gender, and surgery date. They reiterate the importance of expeditious surgery in symptomatic persons.

Hickman MS, Schwesinger WH, and Page CP: Acute cholecystitis in the diabetic: A case-control study of outcome. *Arch Surg* 1988;123:409-411.

FDA's interpretation of aspirin as primary prevention of myocardial infarction

Recent preliminary findings from the Physicians' Health Study indicated a statistically significant reduction in fatal and nonfatal myocardial infarction in physicians receiving aspirin prophylactically. Before the Food and Drug Administration (FDA) can establish guidelines for professional labelling of aspirins concerning in this area, and before physicians can establish a related therapeutic course, several factors must be considered.

Baseline risk of patients should be weighed—the decline in myocardial infarction compared to any increased risk in intracranial hemorrhage. The homogeneous participants in the aforementioned study are not representative of the general population; therefore, applying these findings to the latter population is ill advised. Finally, if after considering these factors, aspirin therapy is pursued, it should be used in conjunction with proven risk factor management techniques. These include smoking cessation, lowering cholesterol levels, and reducing hypertension.

Young FE, Nightingale SL, and Temple RA: The preliminary report of the findings of the aspirin component of the ongoing Physicians' Health Study. *JAMA* 1988;259:3158-3160.

The connection between renal transplants and accelerated atherosclerosis

Age, sex, diabetes, cigarette smoking, hypertension, and higher-than-normal serum cholesterol levels are known risk factors independently associated with atherosclerosis following renal transplantation. A greater incidence of rejection, which required higher doses of corticosteroids, also affected the onset of atherosclerosis. Older men, in particular, were at greatest risk for this cardiovascular complication.

During a ten-year period, 403 kidney transplant patients (464 renal transplants) were studied. Some patients (15.8%) with no clinical evidence of vascular disease prior to transplantation developed atherosclerotic complications nearly four years later.

Early management of risk factors, including improved immunosuppression, should decrease the incidence of atherosclerosis in renal transplant recipients.

Kasiske BL: Risk factors for accelerated atherosclerosis in renal transplant recipients. *Am J Med* 1988;84:985-992.

Relationship between breast cancer and indoor exposure to smoke

Indoor tobacco smoke pollution may account for the high incidence of breast cancer in some women. Researchers noted a relationship after examining US and foreign lung and breast cancer statistics for the past 30 years.

Female breast cancer rates generally corresponded with a high mortality for male lung cancer. While age-adjusted breast cancer rates increased by almost 50% during 1950-1975 in the United States, cigarette consumption rose nearly three-fold during 1927-1952. Similar trends were found in England, Scotland, and the Netherlands where male lung cancer mortality was high

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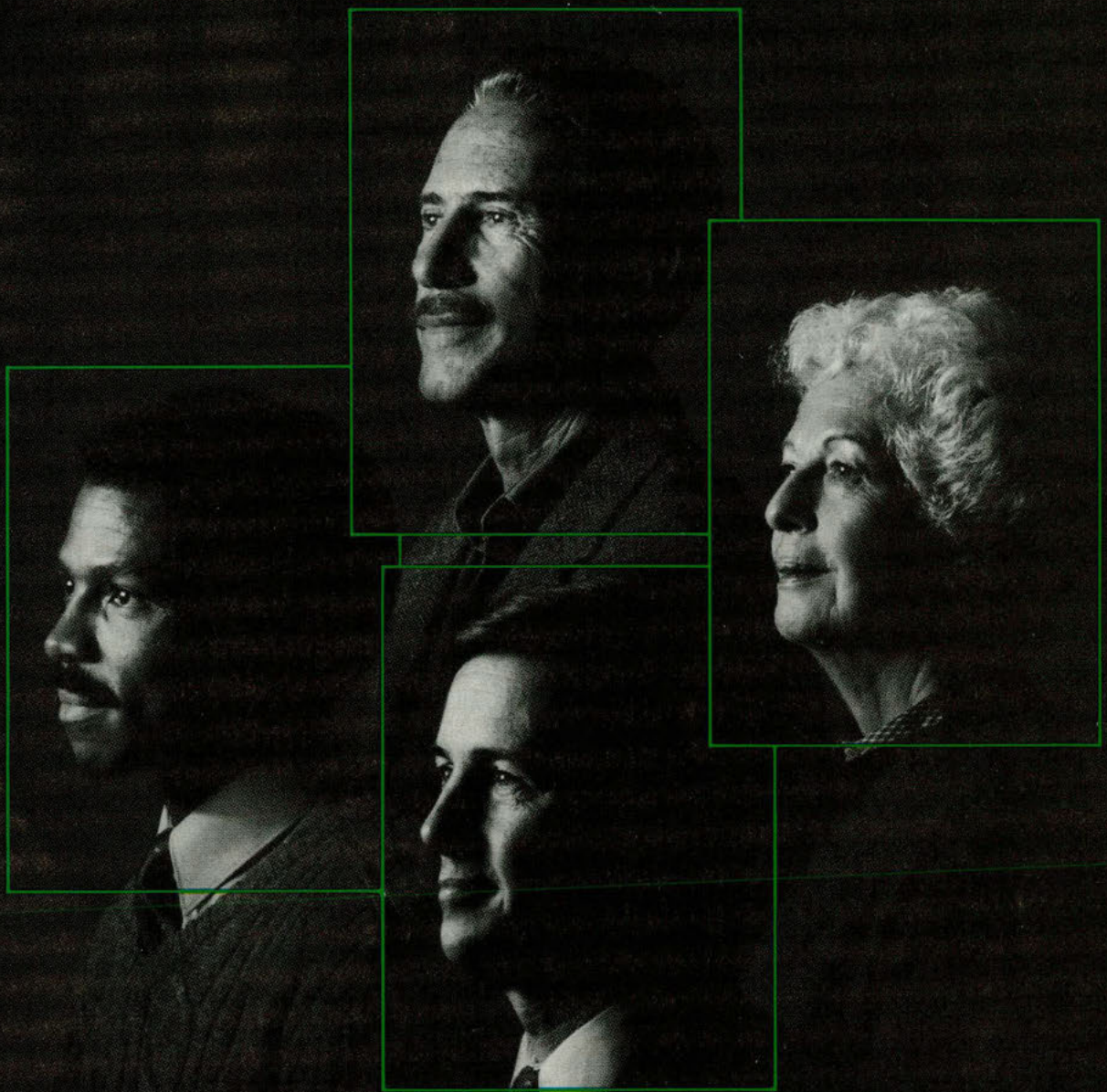

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Each tablet contains:
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Added control and convenience... without added side effects in a majority of patients... regardless of age, race, sex, and prior therapy.[1]

TENORETIC is not indicated for the initial therapy of hypertension.
See adjacent page for brief summary of prescribing information.

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A summary follows:

TENORETIC (atenolol and chlorthalidone) is for the treatment of hypertension. It combines the antihypertensive activity of two agents: a beta$_1$-selective (cardioselective) hydrophilic blocking agent (atenolol, TENORMIN®) and a monosulfonamyl diuretic (chlorthalidone).

Inactive ingredients: magnesium stearate, microcrystalline cellulose, povidone, sodium starch glycolate.

INDICATIONS AND USAGE: TENORETIC is indicated for the treatment of hypertension. This fixed-dose combination drug is not indicated for initial therapy of hypertension. If the fixed-dose combination represents the dose appropriate to the individual patient's needs, it may be more convenient than the separate components.

CONTRAINDICATIONS: TENORETIC is contraindicated in patients with: sinus bradycardia, heart block greater than first degree, cardiogenic shock, overt cardiac failure (see WARNINGS), anuria, hypersensitivity to this product or to sulfonamide-derived drugs.

WARNINGS: Cardiac Failure: Sympathetic stimulation is necessary in supporting circulatory function in congestive heart failure, and beta blockade carries the potential hazard of further depressing myocardial contractility and precipitating more severe failure. In hypertensive patients who have congestive heart failure controlled by digitalis and diuretics, TENORETIC should be administered cautiously. Both digitalis and atenolol slow AV conduction.

In Patients Without a History of Cardiac Failure: Continued depression of the myocardium with beta-blocking agents over a period of time can, in some cases, lead to cardiac failure. At the first sign or symptom of impending cardiac failure, patients receiving TENORETIC should be digitalized and/or be given additional diuretic therapy. Observe the patient closely. If cardiac failure continues despite adequate digitalization and diuretic therapy, TENORETIC therapy should be withdrawn.

Renal and Hepatic Disease and Electrolyte Disturbances: Since atenolol is excreted via the kidneys, TENORETIC should be used with caution in patients with impaired renal function.

In patients with renal disease, thiazides may precipitate azotemia. Since cumulative effects may develop in the presence of impaired renal function, if progressive renal impairment becomes evident, TENORETIC should be discontinued.

In patients with impaired hepatic function or progressive liver disease, minor alterations in fluid and electrolyte balance may precipitate hepatic coma. TENORETIC should be used with caution in these patients.

Ischemic Heart Disease: Although not yet reported with atenolol following abrupt cessation of therapy with certain beta-blocking agents in patients with coronary artery disease, exacerbations of angina pectoris and, in some cases, myocardial infarction have been reported. Therefore, such patients should be cautioned against interruption of therapy without the physician's advice. Even in the absence of overt angina pectoris, when discontinuation of TENORETIC is planned, the patient should be carefully observed and should be advised to limit physical activity to a minimum. TENORETIC should be reinstated if withdrawal symptoms occur.

Bronchospastic Diseases: PATIENTS WITH BRONCHOSPASTIC DISEASE SHOULD, IN GENERAL, NOT RECEIVE BETA BLOCKERS. Because of its relative beta$_1$-selectivity, however, TENORETIC may be used with caution in patients with bronchospastic disease who do not respond to, or cannot tolerate, other antihypertensive treatment. Since beta$_1$-selectivity is not absolute, the lowest possible dose of TENORETIC should be used and a beta$_2$-stimulating agent (bronchodilator) should be made available. If dosage must be increased, dividing the dose should be considered in order to achieve lower peak blood levels.

Anesthesia and Major Surgery: As with all beta-receptor blocking drugs, it may be decided to withdraw TENORETIC before surgery. In this case, 48 hours should be allowed to elapse between the last dose and anesthesia. If treatment is continued, care should be taken when using anesthetic agents because of the risk of further depression of the myocardium.

Beta blockers are competitive inhibitors of beta-receptor agonists and their effects on the heart can be reversed by administration of such agents; eg, dobutamine or isoproterenol with caution (see section on OVERDOSAGE). Manifestations of excessive vagal tone (eg, profound bradycardia, hypotension) may be corrected with atropine (1-2 mg IV).

Metabolic and Endocrine Effects: TENORETIC may be used with caution in diabetic patients. Beta blockers may mask tachycardia occurring with hypoglycemia, but other manifestations such as dizziness and sweating may not be significantly affected. Atenolol does not potentiate insulin-induced hypoglycemia and, unlike nonselective beta blockers, does not delay recovery of blood glucose to normal levels.

Insulin requirements in diabetic patients may be increased, decreased, or unchanged; latent diabetes mellitus may become manifest during chlorthalidone administration.

Beta-adrenergic blockade may mask certain clinical signs (eg, tachycardia) of hyperthyroidism. Abrupt withdrawal of beta blockade might precipitate a thyroid storm; therefore, patients suspected of developing thyrotoxicosis and from whom TENORETIC therapy is to be withdrawn should be monitored closely.

Because calcium excretion is decreased by thiazides, TENORETIC should be discontinued before carrying out tests for parathyroid function. Pathologic changes in the parathyroid glands, with hypercalcemia and hypophosphatemia, have been observed in a few patients on prolonged thiazide therapy; however, the common complications of hyperparathyroidism such as renal lithiasis, bone resorption, and peptic ulceration have not been seen.

Hyperuricemia may occur or acute gout may be precipitated in certain patients receiving thiazide therapy.

PRECAUTIONS, General—Electrolyte and Fluid Balance Status: Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals.

Patients should be observed for clinical signs of fluid or electrolyte imbalance; ie, hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids. Warning signs or symptoms of fluid and electrolyte imbalance include dryness of the mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting.

Hypokalemia may develop, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH.

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Hypokalemia can sensitize or exaggerate the response of the heart to the toxic effects of digitalis (eg, increased ventricular irritability). Hypokalemia may be avoided or treated by use of potassium supplements or foods with a high potassium content.

Any chloride deficit during thiazide therapy is generally mild and usually does not require specific treatment except under extraordinary circumstances (as in liver disease or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction rather than administration of salt except in rare instances when the hyponatremia is life-threatening. In actual salt depletion, appropriate replacement is the therapy of choice.

Drug Interactions: TENORETIC may potentiate the action of other antihypertensive agents used concomitantly. Patients treated with TENORETIC plus a catecholamine depletor (eg, reserpine) should be closely observed for evidence of hypotension and/or marked bradycardia which may produce vertigo, syncope, or postural hypotension.

Thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not sufficient to preclude the therapeutic effectiveness of norepinephrine. Thiazides may increase the responsiveness to tubocurarine.

Lithium generally should not be given with diuretics because they reduce its renal clearance and add a high risk of lithium toxicity. Read circulars for lithium preparations before use of such preparations with TENORETIC.

Should it be decided to discontinue therapy in patients receiving TENORETIC and clonidine concurrently, the TENORETIC should be discontinued several days before the gradual withdrawal of clonidine.

Other Precautions: In patients receiving thiazides, sensitivity reactions may occur with or without history of allergy or bronchial asthma. The possible exacerbation or activation of systemic lupus erythematosus has been reported. The antihypertensive effects of thiazides may be enhanced in the postsympathectomy patient.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Two long-term (maximum dosing duration of 18 or 24 months) rat studies and one long-term (maximum dosing duration of 18 months) mouse study with atenolol, each employing dose levels as high as 300 mg/kg/day or 150 times the maximum recommended human dose, did not indicate a carcinogenic potential in rodents.

Atenolol was negative in the mouse dominant lethal test, the Chinese hamster in vivo cytogenetic test and the Salmonella typhimurium back mutation test (Ames test), with or without metabolic activation.

Fertility of male or female rats (evaluated at dose levels as high as 200 mg/kg/day or 100 times the maximum recommended human dose) was unaffected by atenolol administration.

Use in Pregnancy: Pregnancy Category C. TENORETIC (atenolol and chlorthalidone) was studied for teratogenic potential in the rat and rabbit. Doses of 10, 100 and 300 mg/kg/day were administered orally to pregnant rats, with no teratologic effects observed. Two studies were conducted in rabbits: the first study, pregnant rabbits were dosed with 10, 100 or 200 mg/kg/day. No teratologic changes were noted; embryonic resorptions were observed at all dose levels (ranging from approximately 5 times to 100 times the maximum recommended human dose). In a second rabbit study, dosages were 5, 10 and 25 mg/kg/day. No teratogenic or embryotoxic effects were demonstrated. It is concluded that the no-effect level for embryonic resorptions is 25 mg/kg/day (approximately 12.5 times the maximum recommended human dose) or greater. TENORETIC should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Atenolol—Atenolol has been shown to produce a dose-related increase in embryo/fetal resorption in rats at doses equal to or greater than 50 mg/kg or 25 or more times the maximum recommended human dose. Although similar effects were not seen in rabbits, the compound was not evaluated in rabbits at doses above 25 mg/kg or 12.5 times the maximum recommended human dose. There are no adequate and well-controlled studies in pregnant women.

Chlorthalidone—Thiazides cross the placental barrier and appear in cord blood. The use of chlorthalidone and related drugs in pregnant women requires that the anticipated benefits of the drug be weighed against possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

Nursing Mothers: It is not established to what extent this drug is excreted in human milk. Since most drugs are excreted in human milk, nursing should not be undertaken by mothers receiving TENORETIC.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS: TENORETIC is usually well tolerated in properly selected patients. Most adverse effects have been mild and transient. The adverse effects observed for TENORETIC are essentially the same as those seen with the individual components.

Atenolol: The frequency estimates that follow derive from controlled studies in which adverse reactions were either volunteered by the patient (US studies) or elicited, eg, by checklist (foreign studies). The reported frequency of elicited adverse effects was higher for both atenolol and placebo treated patients than when these reactions were volunteered. Where frequency of adverse effects for atenolol and placebo is similar, causal relationship to atenolol is uncertain.

The data present these estimates in terms of percentages: first from the US studies (volunteered side effects) and then from both US and foreign studies (volunteered and elicited side effects):

US STUDIES (% ATENOLOL-% PLACEBO):

CARDIOVASCULAR: bradycardia (3%-0%), cold extremities (0%-0.5%), postural hypotension (2%-1%), leg pain (0%-0.5%)

CENTRAL NERVOUS SYSTEM/NEUROMUSCULAR: dizziness (4%-1%), vertigo (2%-0.5%), lightheadedness (1%-0%), tiredness (0.6%-0.5%), fatigue (3%-1%), lethargy (1%-0%), drowsiness (0.6%-0%), depression (0.6%-0.5%), dreaming (0%-0%)

GASTROINTESTINAL: diarrhea (2%-0%), nausea (4%-1%)

RESPIRATORY (See WARNINGS): wheeziness (0%-0%), dyspnea (0.6%-1%)

TOTALS US AND FOREIGN STUDIES:

CARDIOVASCULAR: bradycardia (3%-0%), cold extremities (12%-5%), postural hypotension (4%-5%), leg pain (3%-1%)

CENTRAL NERVOUS SYSTEM/NEUROMUSCULAR: dizziness (13%-6%), vertigo (2%-0.2%), lightheadedness (3%-0.7%), tiredness (26%-13%), fatigue (6%-5%), lethargy (3%-0.7%), drowsiness (2%-0.5%), depression (12%-9%), dreaming (3%-1%)

GASTROINTESTINAL: diarrhea (3%-2%), nausea (3%-1%)

RESPIRATORY (see WARNINGS): wheeziness (3%-3%), dyspnea (6%-4%)

MISCELLANEOUS: There have been reports of skin rashes and/or dry eyes associated with the use of beta-adrenergic blocking drugs. The reported incidence is small and, in most cases, the symptoms have cleared when treatment was withdrawn. Discontinuance of the drug should be considered if any such reaction is not otherwise explicable. Patients should be closely monitored following cessation of therapy.

Chlorthalidone: Cardiovascular: orthostatic hypotension; Gastrointestinal: anorexia, gastric irritation, vomiting, cramping, constipation, jaundice (intrahepatic cholestatic jaundice), pancreatitis; CNS: vertigo, paresthesias, xanthopsia; Hematologic: leukopenia, agranulocytosis, thrombocytopenia, aplastic anemia: Hypersensitivity: purpura, photosensitivity, rash, urticaria, necrotizing angiitis (vasculitis, cutaneous vasculitis), Lyell's syndrome (toxic epidermal necrolysis); Miscellaneous: hyperglycemia, glycosuria, hyperuricemia, muscle spasm, weakness, restlessness. Clinical trials of TENORETIC conducted in the United States (89 patients treated with TENORETIC) revealed no new unexpected adverse effects.

Potential Adverse Effects: In addition, a variety of adverse effects not observed in clinical trials with atenolol but reported with other beta-adrenergic blocking agents, should be considered potential adverse effects of atenolol. Nervous System: reversible mental depression progressing to catatonia, hallucinations; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, decreased performance on neuropsychometrics; Cardiovascular: intensification of AV block (see CONTRAINDICATIONS); Gastrointestinal: mesenteric arterial thrombosis, ischemic colitis; Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura; Allergic: erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress; Miscellaneous: reversible alopecia, Peyronie's disease.

There have been reports of a syndrome comprising psoriasiform skin rash, conjunctivitis sicca, otitis, and sclerosing serositis attributed to the beta-adrenergic receptor blocking agent, practolol. This syndrome has not been reported with TENORETIC or TENORMIN (atenolol).

Clinical Laboratory Test Findings: Clinically important changes in standard laboratory parameters were rarely associated with the administration of TENORETIC. The changes in laboratory parameters were not progressive and usually were not associated with clinical manifestations. The most common changes were increases in uric acid and decreases in serum potassium.

DOSAGE AND ADMINISTRATION: Initial dose should be one TENORETIC 50 tablet once a day. If optimal response is not achieved, the dosage should be increased to one TENORETIC 100 tablet once a day. Package insert should be consulted for dosage adjustments in cases of severe impairment of renal function.

HOW SUPPLIED: TENORETIC 50 Tablets (atenolol 50 mg and chlorthalidone 25 mg), NDC 0310-0117 (white, round, biconvex, uncoated tablets with ICI on one side and 115 on the other side, bisected) supplied in bottles of 100 tablets.

TENORETIC 100 Tablets (atenolol 100 mg and chlorthalidone 25 mg), NDC 0310-0117 (white, round, biconvex, uncoated tablets with ICI on one side and 117 on the other side) are supplied in bottles of 100 tablets.

Protect from heat, light, and moisture. Dispense in well-closed, light-resistant container.

A/12

Reference: 1. TENORETIC Evaluation Program, an open 28-day study of 26,892 hypertensive patients conducted by more than 7,000 physicians (data on file, ICI Pharma, Wilmington, Delaware) physicians were requested to enter those patients needing more control than provided by monotherapy.

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along with breast cancer rates in women. This correlation occurred despite the fact that women in these countries comprise a small percentage of smokers.

The author concludes that involuntary early exposure to tobacco smoke correlates with the diagnosis of breast cancer two decades thereafter. Consequently, we need to modify smoking policies, even those limited to designated areas, throughout society.

Horton AW: Indoor tobacco smoke pollution: A major risk factor for both breast and lung cancer? *Cancer* 1988;1:6-14.

United States and United Kingdom (UK) attitudes concerning diagnosis and treatment of coronary disease

United States physicians find coronary angiography and coronary artery bypass graft operations appropriate diagnostic and treatment methods more frequently than their UK counterparts.

In two separate groups of patients who underwent angiography between 1979-1981, US physicians rated the procedures inappropriate 17% and 27% of the time compared to UK ratings of 42% and 60%. Coronary artery bypass grafts were found inappropriate only 13% of the time by the US panel. The UK physicians rated this procedure inappropriate 35% of the time.

Indications for these procedures were presented in specific clinical situations. Appropriateness for each indication was rated on a scale from 1 to 9. US physicians were more likely to reach a consensus among themselves than were UK panelists.

Assuming that the rate of coronary artery disease is relatively the same in both countries, it would seem that 130 bypass operations per million patients were performed unnecessarily, even by US standards. The authors acknowledge the need to refine the methodology and apply it to current procedures.

Brook RH, Park RE, Kosecoff JB, et al: Diagnosis and treatment of coronary disease: Comparison of doctors' attitudes in the USA and the UK. *Lancet* 1988;1:750-753.

Postoperative deep vein thrombosis and prophylactics

In order to prevent postoperative deep vein thrombosis, prophylactic measures should continue after discharge from the hospital.

Fifty-seven patients with a mean age of 62.7 years were studied. Of those, 52 received prophylactic treatment in the hospital that included the wearing of graduated elastic compression stockings, low doses of heparin, intermittent pneumatic impression, or a combination of the first two methods.

Deep vein thrombosis was diagnosed in six patients prior to discharge, four of whom received no preventive measures. Prophylactic treatment was discontinued in 50 patients who showed no evidence of deep vein thrombosis before discharge.

Follow up continued once patients were at home. Thirteen of the 51 patients who showed no signs of deep vein thrombosis in the hospital developed this complication during a six-week period.

Based on this study, the incidence of deep vein thrombosis after discharge appears higher than originally thought.

Scurr JH, Coleridge-Smith PD, and Hasty JH: Deep venous thrombosis: A continuing problem. *Br Med J* 1988;297:28.

Modifying risk factors after myocardial infarction

Preventing a second myocardial infarction depends in large part on reducing blood cholesterol levels, maintaining stable blood pressure, quitting cigarette smoking, and reducing weight through diet and exercise.

Reducing cholesterol levels is particularly important in patients whose first myocardial infarction occurred before age 50. Diastolic blood pressure levels consistently higher than 95 mm Hg should be treated with beta blockers. Smoking cessation may prevent angina pectoris, congestive heart failure, and intermittent claudication, not to mention emphysema and cancer. Weight reduction that includes a diet low in saturated fats, reduced caloric intake, and an increase in moderate physical activity all reduce the incidence of a second heart attack.

Patients who already have had one myocardial infarction prove more than cooperative in following such a program.

Siegel D, Grady D, Browner WS, et al: Risk factor modification after myocardial infarction. *Ann Intern Med* 1988;109:213-218.

Aspirin and dipyridamole for short-term prevention of restenosis after PCTA

Aspirin and dipyridamole given before and after percutaneous transluminal coronary angioplasty (PTCA) markedly reduced the incidence of transmural myocardial infarction during or soon after this procedure. However, no long-term reduction in restenosis rates occurred with this regimen.

This randomized, double-blind, placebo-controlled study included 376 patients. Those in the active treatment group received oral aspirin-dipyridamole (330 mg-75 mg) three times a day. This combined therapy was administered 24 hours prior to PTCA. An intravenous dosage of 10 mg dipyridamole was administered eight hours before PTCA for 24 hours. During this time oral aspirin was continued.

Treatment continued until follow-up angiography was performed four to seven months later, unless symptoms dictated earlier angiography. During follow up, 37.7% of patients had restenosis in at least one segment while 38.6% of placebo patients exhibited similar findings.

Schwartz L, Bourassa MG, Lespérance J, et al: Aspirin and dipyridamole in the prevention of restenosis after percutaneous transluminal coronary angioplasty. *New Engl J Med* 1988;318:1714-1719.

Diagnosing pulmonary embolism in patients with pleuritic chest pain

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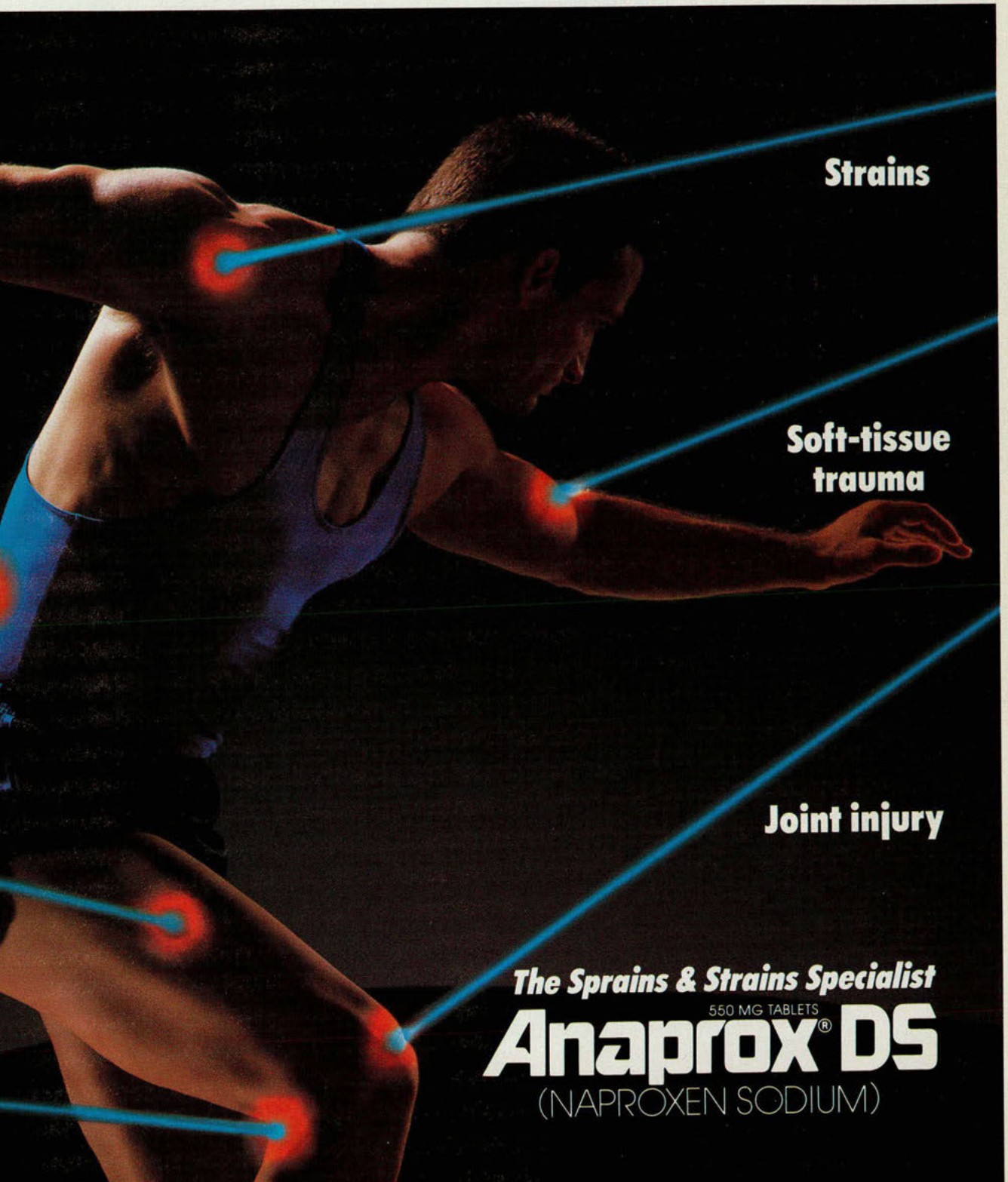

ables for pulmonary embolism. Likewise, ventilation imaging and impedance plethysmography employed with perfusion scanning substantially reduce the number of patients that need angiography—43% to 26%—without significantly compromising accuracy.

These findings, based on a prospective study of 173 consecutive patients who came to the emergency room of an Ontario hospital complaining of pleuritic chest pain, confirm earlier studies.

Hull RD, Raskob GE, Carter CJ, et al: Pulmonary embolism in outpatients with pleuritic chest pain. *Arch Intern Med* 1988;148:838-844.

Post stroke management

Managing high-risk patients before stroke occurs and recognizing and treating complications during the three weeks following an initial stroke help reduce short-term mortality.

Long-term recovery depends on several factors, including concomitant morbidities such as cardiovascular disease, arthritis, and other neurologic conditions. Likewise, emotional problems, particularly depression, must be treated. This article provides a concise update on stroke.

Grotta JC: Post-stroke management concerns and outcomes. *Geriatrics* 1988;43:40-46.

Complex carbohydrate intolerance in infants with protracted diarrhea

Complex carbohydrate intolerance should be suspected in all infants with protracted diarrhea when accompanied by persistent carbohydrate intolerance.

In the three cases reported here, nosocomial gastroenteritis complicated the initial carbohydrate absorption disorder. Protracted diarrhea, villus atrophy on intestinal biopsy tissue, and malnutrition necessitating alimentation were present. Primary carbohydrate intolerance was diagnosed after 2 to 12 weeks. Once placed on a carbohydrate-free diet, all three infants recovered.

Lloyd-Still JD, Listernick R, and Buentello G: Complex carbohydrate intolerance: Diagnostic

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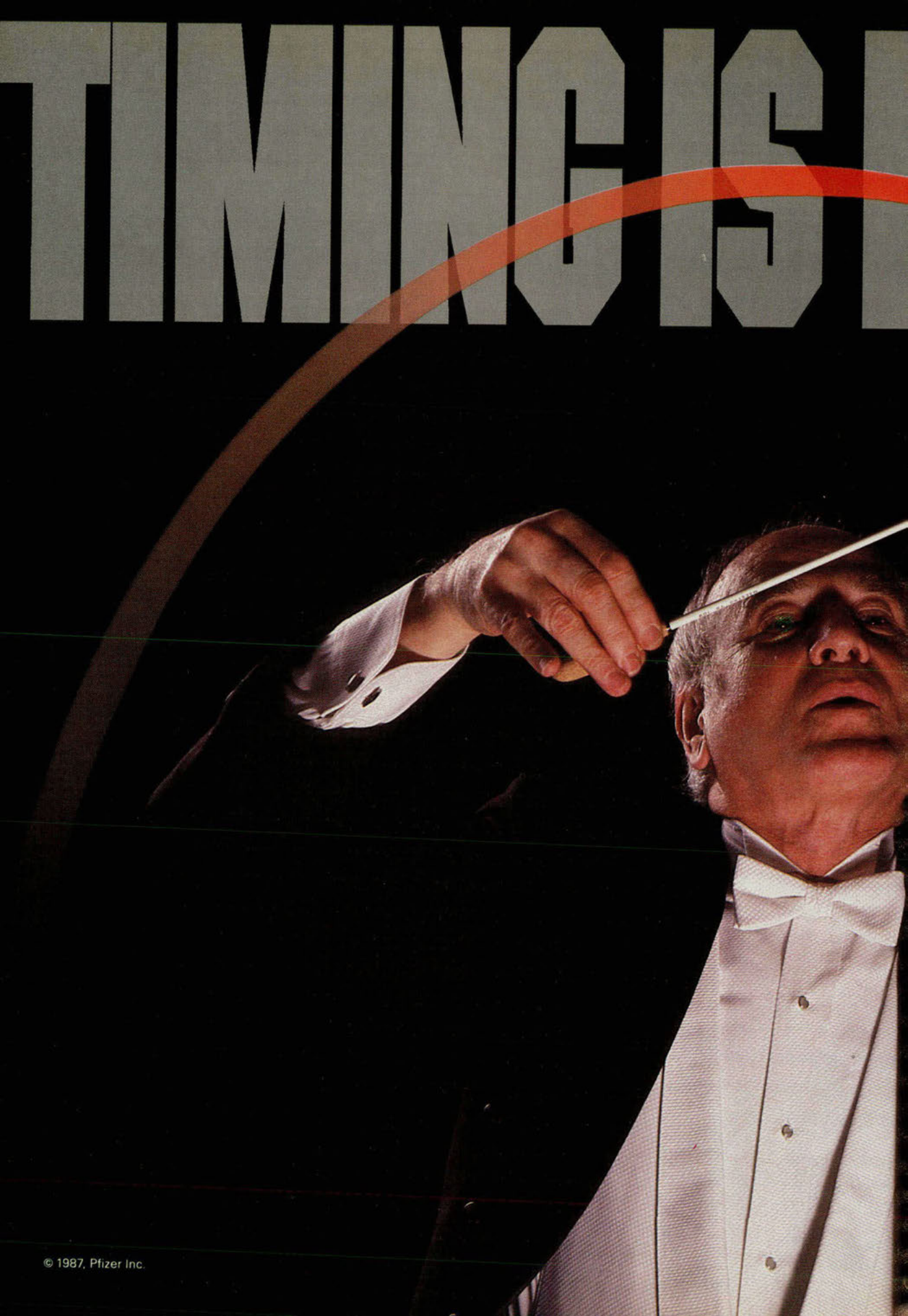

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