JAOA
medi-notes

GEORGE W. NORTHUP, D.O.
Editor in Chief

Foot problems in athletes

Primary care physicians have not paid overwhelming attention to disorders of the feet. However, foot problems—from skin maladies to deformities of the bone—occur frequently in sports participants. It stands to reason that problems relative to the foot can be totally debilitating as far as competitive athletes are concerned.

The authors of this article report that, in most cases, the proper employment of tape, foam, felt, metatarsal pads, and bars can easily solve what may be a perplexing problem. Manufactured orthotic devices may be necessary in certain instances. No matter how a disorder is managed, all athletes must be carefully advised on ways to treat and, more importantly, to prevent foot problems.

There was a time in the osteopathic profession when every program coordinated by the American Osteopathic Association contained a section on the disorders of the foot. Osteopathic physicians are in a good position to lead the way in the diagnosis and management of many of these mechanical problems.

Garfinkel, D., and Rothenberger, L.A.: Foot problems in athletes. J Fam Pract 19:239-50, 1984

Polymyalgia and arteritis

Polymyalgia rheumatica is typically found in elderly, Caucasian people complaining of bilateral pain in the shoulders and hips. The patient's sedimentation rate (Westergren) is usually elevated to at least 50 mm./hour. Polymyalgia rheumatica can be confused with such other rheumatic or myalgic disorders as rheumatoid arthritis, systemic lupus erythematosus, indeterminate myalgias, and the myositis of cancer.

The author states that although polymyalgia rheumatica is self-limiting in most cases, the disease is associated with giant cell arteritis in approximately 15-30 percent of patients. The patient should be alerted to go immediately to an ophthalmologist or emergency room if any unusual visual problems present.

Fuller, E.: Polymyalgia/arteritis. A one-two punch? Patient Care, pp. 129-32,134,139-40, 15 Sep 84

Patient-controlled analgesia

Patient-controlled analgesia is evaluated via two preliminary investigations. In the first study, the patient-controlled analgesia device consisted of a pump linked to a timer so that patients could activate intravenous administration of morphine sulfate to themselves during the postoperative period. Seven morbidly obese patients utilized this device. The amount of morphine used during the first 36 hours was found to vary between 32 and 185 mg., with a significant difference in drug usage when related to weight as well as to body surface area.

The second study involved morbidly obese patients undergoing gastric bypass operations. Twelve individuals used the patient-controlled analgesia device in the postoperative period, while 12 patients were given standard intramuscular dosages of morphine sulfate. The two groups were then compared with an analgesia and sedation scale.

Subjects in the patient-controlled analgesia group were able to maintain a state of adequate analgesia without sleep with a significantly greater frequency than those in the intramuscular injection group. According to the results of a questionnaire (completed by each patient after 60 hours of morphine analgesia), the patient-controlled analgesia group was much more satisfied with that form of postoperative analgesia. The reasons offered for the superiority of patient-controlled analgesia are as follows: "(1) there is no delay between perception of pain and administration of analgesia; (2) there is no feeling of helplessness because of too much analgesia; and (3) the patient, not the doctor or nurse, controls the use of the analgesic."

Patient-controlled analgesia appears to be an effective and safe method of providing postoperative pain relief.

Bennett, R.L., et al.: Patient-controlled analgesia. A new concept of postoperative pain relief. Ann Surg 195:700-5, Jun 82

New techniques for treating disk disease

A number of surgical procedures, including laminectomy and/or fusion, have been developed and successfully employed to treat disabling lumbar disk disease. In 1979, 170,000 diskectomies were performed in this country.

The author of the present article said, "The incidence of morbidity and mortality associated with hemilaminectomy and diskectomy, although small, is associated with disruption of the normal anatomy. The goal of modern lumbar disk surgery, therefore, is to remove only that tissue that is absolutely necessary in order to relieve pain."

Chemonucleolysis and percuta-

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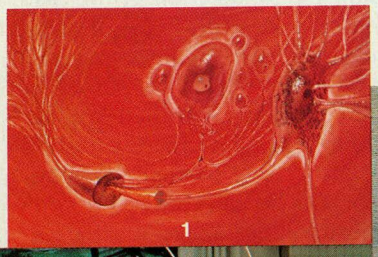
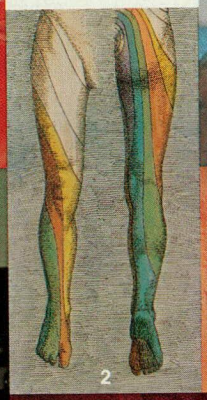
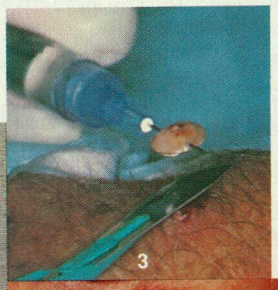
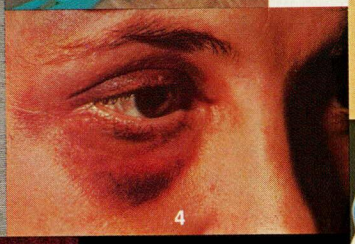
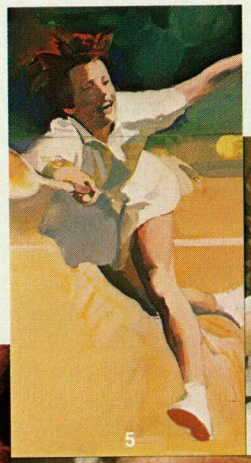
23 reasons to

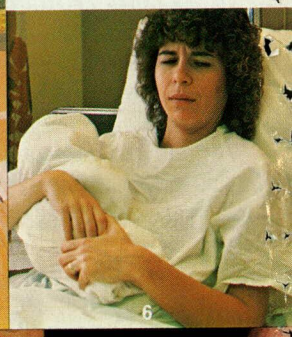


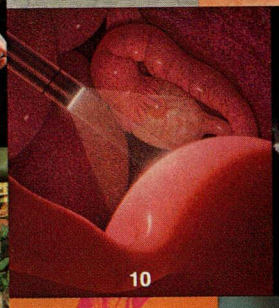


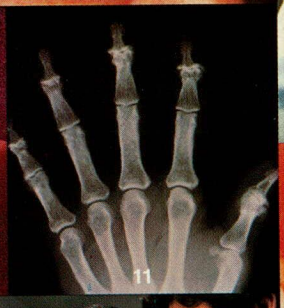


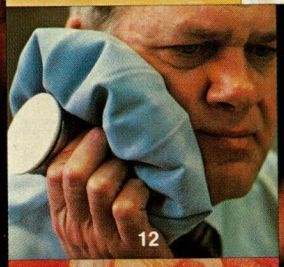


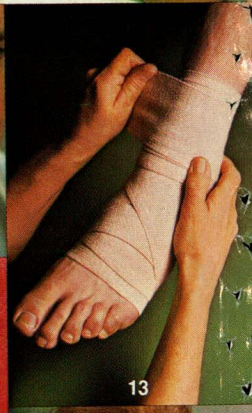


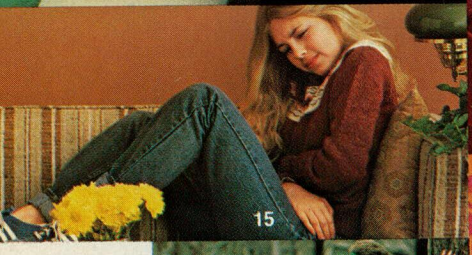


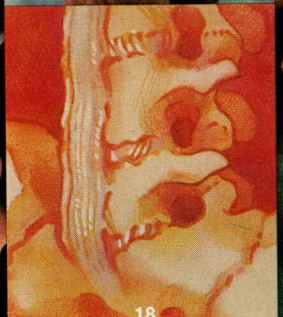


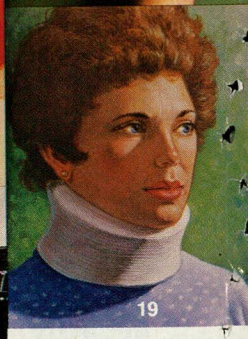


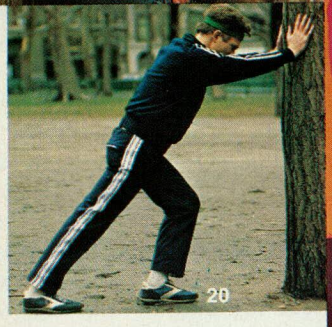


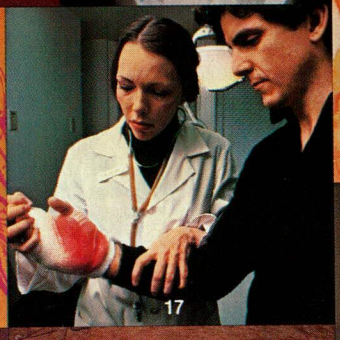


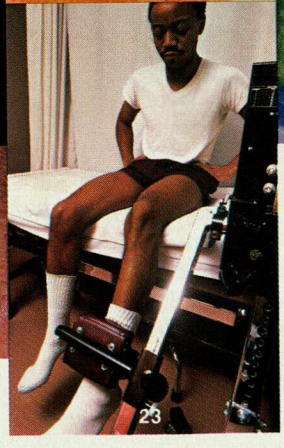


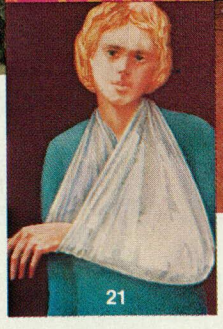


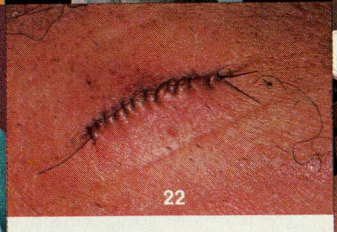












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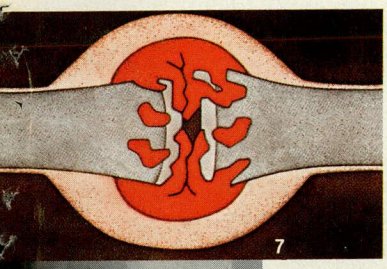

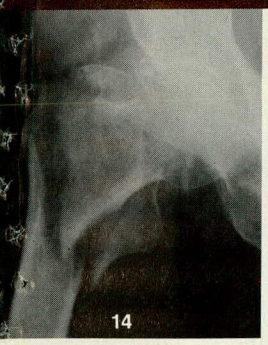

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neous diskectomy are two practical methods of treating disabling lumbar disk disease in geriatric patients. Microdiskectomy may be the procedure of choice if chemonucleolysis and percutaneous diskectomy are contraindicated.

The author reports that approximately 90 percent of microdiskectomy patients can resume previous activities without use of pain-relieving medication. In fact, many patients can leave the hospital 2 or 3 days after surgery.

As experience with these procedures grows, so will the analytic observations relative to positive and adverse results, indications, and contraindications.

Friedman, W.A.: New techniques for treatment of disk disorders. Geriatrics 39:41-2,45,48,52-3, Aug 84

Prevention of ventricular fibrillation during acute myocardial infarction

In a report emanating from New Zealand, it was concluded that an intravenous/oral propranolol regimen appears to prevent ventricular fibrillation secondary to evolving myocardial infarction. The study involved 735 individuals; 364 received propranolol and 371 acted as controls. Within 4 hours of the onset of suspected myocardial infarction, a trial of intravenous followed by oral propranolol was initiated, and the therapy was continued over 27 hours.

A highly significant reduction in the incidence of ventricular fibrillation was found in patients on the propanolol regimen. However, the treated and control patients experienced the same rates of hospital mortality, complications other than ventricular fibrillation, and progression from threatened to completed infarction. It is important to note that ventricular fibrillation was not apparently prevented by prior beta-blocker treatment, which was not a reason for exclusion from the trial.

Propranolol should not be administered to patients with convention-

al contraindications, and regular monitoring of heart rate and blood pressure in the coronary care unit is recommended.

Norris, R.M., et al.: Prevention of ventricular fibrillation during acute myocardial infarction by intravenous propranolol. Lancet 2:883-6, 20 Oct 84

Leuprolide versus diethylstilbestrol for metastatic prostate cancer

In multiple institutional investigation, the effectiveness and safety of leuprolide, a gonadotropin-releasing hormone analogue, was compared with diethylstilbestrol in patients with prostate cancer and distant metastases who had not previously received systemic treatment. The study involved 199 individuals; 98 were randomly assigned to leuprolide treatment (1 mg. injected subcutaneously daily), and 101 were assigned to diethylstilbestrol therapy (3 mg. orally each day). Leuprolide or diethylstilbestrol therapy was continued for as long as an objective response was observed; crossover to the alternative therapy occurred when the disease progressed or when the patient experienced intolerable adverse reactions.

It was determined that leuprolide is therapeutically equivalent to diethylstilbestrol in the initial systemic management of metastatic prostate cancer. Leuprolide also causes fewer side effects.

The Leuprolide Study Group: Leuprolide versus diethylstilbestrol for metastatic prostate cancer. N Engl J Med 311:1281-6, 15 Nov 84

Day rehabilitation stroke program

The stroke patient's need for long-term rehabilitation is well known. Riverside Methodist Hospital in Columbus, Ohio, has developed an innovative way to handle the rehabilitation of the stroke patient. The Stroke Rehabilitation Program was developed to bridge the gap between the inpatient hospital and the community, the gap between inpatient and outpatient treatment.

Patients spend 6 hours a day, several days a week, attending the rehabilitation program, at which all of their necessary therapies are provided. Each person's treatment regimen may include individual and independent exercises, group exercises, and individual therapy. A framework schedule follows: 9 a.m., arrival; 9-11 a.m., individual and independent exercises; 11-11:40 a.m., ambulation skills; 11:45 a.m.-12 p.m., group discussion; 12-1 p.m., lunch and rest; 1-2 p.m., therapeutic group exercises; and 2-3 p.m., activity adaptations.

A year-end analysis of the program substantiates the original hypothesis of the program's developers. Stroke patients did indeed show significant improvement with treatment in a specialized, day rehabilitation facility.

Marsh, M.: A day rehabilitation stroke program. Arch Phys Med Rehabil 65:320-3, Jun 84

Mechanism of pain in diabetic peripheral neuropathy

It has been reported that alteration in serum glucose levels modulate the responsiveness of animals to opiates. In the present studies, a 50-gram glucose infusion in normal individuals resulted in significant decreases in their threshold levels of pain and maximal levels of pain tolerated. Furthermore, patients with diabetes mellitus were hyperalgesic when compared with normal subjects.

The studies' findings indicate, therefore, that "rapid increases in circulating glucose levels produce a decrease in the ability of normal persons to tolerate pain."

According to researchers involved, "These findings have potential and clinical implications in the pathophysiology and management of painful diabetic neuropathy and the use of narcotic agents in diabetes mellitus."

Morley, G.K., et al.: Mechanism of pain in diabetic peripheral neuropathy. Effect of glucose on pain perception in humans. Am J Med 77:79-82, Jul 84

The snapping iliopsoas tendon

Snapping iliopsoas tendon is a rare form of the snapping hip syndrome. The condition, which is infrequently recognized, is caused by the snapping of the iliopsoas tendon over the iliopectineal eminence when the femur is moved from the flexed position at the hip and extended through 45 degrees of flexion. The finding can be illustrated with the patient supine and gently resisting gravity with the iliopsoas muscle, thus placing it under tension. At approximately 45 degrees of flexion, the iliopsoas tendon in the 2 patients described in the current report was confirmed radiographically to snap abruptly. The snap occurred coincidentally with an audible sound over the iliopectineal eminence of the pelvis. The authors maintain that this happens often and is generally asymptomatic. However, it should be noted that in both cases pain was associated with the phenomenon.

Appropriate management of snapping iliopsoas tendon involves early recognition of the syndrome and an understanding of its pathologic changes.

Lyons, J.C., and Peterson, L.F.A.: The snapping iliopsoas tendon. Mayo Clin Proc 59:327-9, May 84

Hyperventilation syndrome and the elderly

The hyperventilation syndrome can be defined as hyperventilation accompanied by a wide variety of symptoms. Hyperventilation syndrome is not confined to young adults, as is often believed. For example, in a large series of patients, about 37 percent were 50 years of age or older, and 15 percent were age 60 or older.

A diagnosis of hyperventilation syndrome is sometimes difficult to make because symptoms secondary to it—numbness, weakness and paresthesia—can occur in anxious, neurotic and, occasionally, in depressed patients who lack the presence of the low arterial carbon dioxide tension

continued on page **139**/48

Emerging from depression

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†**The 150-mg capsule strength is intended for maintenance therapy only and is not recommended for initiation of treatment.**

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that would indicate alveolar hyperventilation. The symptoms of hyperventilation can also occur in a number of pulmonary, gastrointestinal, cardiac, and neurologic diseases, as well as in various anxiety and affective disorders.

The two categories of causes of hyperventilation are (1) organic and physiologic and (2) emotional and habitual. When diagnosing this disorder, the physician must maintain a high index of suspicion while eliminating the known organic and physiologic causes.

Psychotherapy, psychotropic drugs, β-adrenergic blocking drugs, and behavior therapy can be employed in the treatment of hyperventilation syndrome.

Brashear, R.E.: Hyperventilation syndrome. Managing elderly patients. Geriatrics 39:114-5,118-20,125, Jul 84

Intravenous morphine for severe cancer pain

According to medical literature, more than 60 percent of people with cancer will at some time have pain that requires active medical, surgical, or other intervention. The present study was conducted to determine the effectiveness and safety of intravenous morphine administered continuously for cancer pain unrelieved by standard narcotic therapy. Thirteen patients, ranging from 32 to 60 years of age, underwent 15 courses of continuous intravenous morphine. Bolus intravenous injections of from 2 to 5 mg. of morphine were administered every 10 minutes until pain relief was achieved. Continuous intravenous morphine infusion was begun within the next hour; the hourly dose was equal to the cumulative bolus dose.

At baseline and during the study period, the following parameters were recorded: respiratory rate, pulse, blood pressure, arterial blood gas values, mental status, and pain relief. Despite subsequent increases in morphine dose, blood gas values tended to remain at or return toward normal baseline values. And, after the initiation of the morphine infusion, pulse rates and systolic blood pressures did not alter significantly

from their baseline values. Severe toxicity occurred during one trial; bradypnea and marked somnolence were its forerunners. Major pain relief was achieved in 11 of the 15 trials.

It was determined that the administration of continuous intravenous morphine is an effective, safe method of relieving pain, even in patients with borderline pulmonary status. However, bradypnea associated with marked somnolence is a cause for dose reduction.

Citron, M.L., et al.: Safety and efficacy of continuous intravenous morphine for severe cancer pain. Am J Med 77:199-204, Aug 84

Acute appendicitis versus pelvic inflammatory disease

Thanks to the development of surgical treatment of the gastrointestinal tract within the last 50 years, the treatment of acute appendicitis has become relatively routine. However, appendicitis still is primarily diagnosed clinically, with about the same degree of diagnostic accuracy (approximately 75 to 80 percent). The degree of inaccuracy can be linked to the group of patients in whom the diagnosis is being evaluated. Women of childbearing age are most difficult to evaluate; it has been said that this group carries the lowest diagnostic accuracy rate (as low as 55 to 68 percent).

It has been suggested that acute appendicitis in women of this age group tends to occur more frequently in the luteal phase of the menstrual cycle, as compared to other phases. Certain researchers have hypothesized that female sex hormones might be an important causative factor in the development of this disease. Others have stated that some gynecologic disorders, particularly some forms of pelvis inflammatory disease (PID), tend to manifest themselves during different phases of the menstrual cycle.

This study was conducted to verify the incidence of acute appendicitis in each phase of the menstrual cycle and to determine whether these data would be useful in the preoperative differentiation of appendicitis from PID.

After a thorough investigation, the authors concluded that the menstrual history does not appear to be useful in differentiating acute appendicitis from PID in women of childbearing age.

Robinson, J.A., and Burch, B.H.: An assessment of the value of the menstrual history in differentiating acute appendicitis from pelvic inflammatory disease. Surg Gynecol Obstet 159:149-52, Aug 84

Herpes zoster: Protecting older patients' vision

Serious consideration of a diagnosis of herpes zoster must be given to any elderly patient who presents with headache. Herpes zoster ophthalmicus is an infection that strikes people over 50 more often than any other age group. The early symptoms of the condition include severe pain and sensitivity to touch; these symptoms precede the onset of any skin lesions. When the patient is elderly, the symptoms are easily misdiagnosed as possible temporal arteritis.

It was reported that the antiviral agent acyclovir is useful in the outpatient treatment of herpes zoster ophthalmicus in the immunocompetent patient. Acyclovir is more potent than previous agents, has minimal to no systemic or local toxicity, and can be administered orally; however, at the time of the original article's publication, the agent's oral form was not yet available in the United States. It was noted that in the meantime, systemic steroids can significantly reduce postherpetic neuralgia when administered early in the course of zoster infection. The usual regimen is prednisone (60 mg./day) for a week; the dose is then tapered over an additional 2 to 3 weeks. This therapy should be considered if the patient has moderate pain in the acute phase; it is a safe way of managing the immunocompetent patient who has no significant risk of dissemination.

It should be remembered that steroid use can lead to potentially life-threatening dissemination in the immunocompromised individual. And, there is no evidence that steroid use prevents subsequent zoster eye involvement or that it shortens the course of ocular inflammation, should that develop.

Lass, J.H.: Herpes zoster. Protecting older patients' vision. Geriatrics 39:79-80,85-7,91,94, Jul 84

Oral cephalosporin efficacy with a once-or twice-a-day dosage

With DURICEF® (cefadroxil), concentrations* in tonsillar tissue, urine, and skin blister fluid that exceed the MICs† for susceptible organisms are significantly greater and/or longer lasting than those of cephalexin.[1-3]

This activity makes the difference between a q.i.d. regimen that's hard to remember and a simple once- or twice-a-day dosage that's hard to forget.[4]

*Tissue/fluid penetration is regarded as essential to therapeutic efficacy, but penetration levels have not been correlated with specific therapeutic results.

†***In vitro*** **activity does not always correlate with** ***in vivo*** **effectiveness.**

1. Quintiliani R: A review of the penetration of cefadroxil into human tissue. *J Antimicrob Chemother* 1982;10(suppl B):33-38. **2.** Leitner F, McGregor MC, Pursiano TA: Comparative antibacterial spectrum of cefadroxil. *J Antimicrob Chemother* 1982;10 (suppl B):1-9. **3.** Hartstein AI, Patrick KE, Jones SR, et al: Comparison of pharmacological and antimicrobial properties of cefadroxil and cephalexin. *Antimicrob Agents Chemother* 1977;12:93-97. **4.** Ayd JF Jr: Single daily dose of antidepressant. *JAMA* 1974;230:263-264.

INDICATIONS: DURICEF (cefadroxil) is indicated for the treatment of the following infections when caused by susceptible strains of the designated microorganisms: Urinary tract infections caused by *E. coli, P. mirabilis,* and *Klebsiella* species. Skin and skin structure infections caused by staphylococci and/or streptococci. Pharyngitis and tonsillitis caused by Group A beta-hemolytic streptococci. (Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. DURICEF is generally effective in the eradication of streptococci from the nasopharynx; however, substantial data establishing the efficacy of DURICEF in the subsequent prevention of rheumatic fever are not available at present.)

Note— Culture and susceptibility tests should be initiated prior to and during therapy. Renal function studies should be performed when indicated.

CONTRAINDICATIONS: DURICEF (cefadroxil) is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

WARNING: IN PENICILLIN-ALLERGIC PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE USED WITH GREAT CAUTION. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF PENICILLINS AND CEPHALOSPORINS, AND THERE ARE INSTANCES OF PATIENTS WHO HAVE HAD REACTIONS TO BOTH DRUGS (INCLUDING FATAL ANAPHYLAXIS AFTER PARENTERAL USE). Any patient who has demonstrated a history of some form of allergy, particularly to drugs, should receive antibiotics cautiously and then only when absolutely necessary. No exception should be made with regard to DURICEF (cefadroxil). **Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad spec-**

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trum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use. Treatment with broad spectrum antibiotics alters normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind the toxin *in vitro*. Mild cases of colitis may respond to drug discontinuance alone. Moderate to severe cases should be managed with fluid, electrolyte and protein supplementation as indicated. When the colitis is not relieved by drug discontinuance or when it is severe, oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should also be considered.

PRECAUTIONS: Patients should be followed carefully so that any side-effects or unusual manifestations of drug idiosyncrasy may be detected. If a hypersensitivity reaction occurs, the drug should be discontinued and the patient treated with the usual agents (e.g., epinephrine or other pressor amines, antihistamines, or corticosteroids).

DURICEF (cefadroxil) should be used with caution in the presence of markedly impaired renal function (creatinine clearance rate of less than 50 ml/min/1.73 M^2). (See Dosage and Administration section of Prescribing Information.) In patients with known or suspected renal impairment, careful clinical observation and appropriate laboratory studies should be made prior to and during therapy.

Prolonged use of DURICEF may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug. DURICEF should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy: Pregnancy Category B. Reproduction studies have been performed in mice and rats at doses up to 11 times the human dose and have revealed no evidence of impaired fertility or harm to the fetus due to cefadroxil. There are, however, no adequate and well controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: Caution should be exercised when cefadroxil is administered to a nursing mother.

ADVERSE REACTIONS: *Gastrointestinal* — Symptoms of pseudomembranous colitis can appear during antibiotic treatment. Nausea and vomiting have been reported rarely. *Hypersensitivity* — Allergies (in the form of rash, urticaria, and angioedema) have been observed. These reactions usually subsided upon discontinuation of the drug. Other reactions have included genital pruritus, genital moniliasis, vaginitis, and moderate transient neutropenia.

Before prescribing or administering, see package insert.

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Mead Johnson PHARMACEUTICAL DIVISION

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