may have more than one initiating, perpetuating mechanism that we are sorely in need of more testable theories such as the one Dr Van Buskirk proposes. Future theories should integrate the vast amount of structural and functional knowledge obtained from laboratories, both within and outside of the profession, into the central concepts of osteopathic medicine. Indeed, if we believe that the concepts of osteopathic medicine are universal and important, then we must reach out to interpret the data in light of the osteopathic philosophy. No one will do it for us.

MICHAEL M. PATTERSON, PhD
Contributing Editor

1. Northup GW: *Osteopathic Medicine: An American Reformation*, ed 2. Chicago, Ill, American Osteopathic Association, 1979, p 47.

2. Korr IM: Proprioceptors and somatic dysfunction. *JAOA* 1975;74:638-650.

Just what is osteopathic medicine's role in society?

"What health needs does the osteopathic medical profession purport to meet that are not being met, or likely to be met, by any other profession?"—Irvin M. Korr, PhD

In a recent editorial (*JAOA* 1990;90:128), I opined that our role in society remains greatly misunderstood, not only by the public, but by many persons in the osteopathic medical profession as well. Osteopathic medicine's boundless potential still remains shackled by a lack of clarity as to its real distinction, its role, and its function in society.

Dr Korr eloquently examines this dilemma in his article, "Osteopathic medicine: The profession's role in society," beginning on page 824. He addresses how we osteopathic physi-

cians can use our education skills and philosophy to enhance the prevention of chronic disease in society.

"When osteopathic physicians who are skilled in OMT are also able, themselves or in collaboration with others, to provide guidance for their patients in behavioral, psychosocial, and nutritional realms, they have command of a powerful lever for moving the whole person, and not just a part of the body."

Dr Korr acknowledges, as we osteopathic physicians should, that we have always had the knowledge and skills necessary for maintaining health in our patients: "Having, from its beginning, emphasized in its practice the inherent health-maintaining and the health-restoring powers, the osteopathic medical profession has long had the opportunity to lead this movement."

I am certain that you, our readers, will agree that Dr Korr's ideas make a seminal contribution to our understanding of the role of osteopathic medicine in addressing society's healthcare needs. The *JAOA* welcomes and encourages your response and comments.

THOMAS WESLEY ALLEN, DO
Editor in Chief

Making the most of growing older

The aging generation is enjoying a degree of popularity—almost. I have no trouble belonging, for my credentials are more than adequate. Sometimes they are more adequate than others, but adequate nonetheless.

Robert Browning said it well when he wrote:

I'm growing fonder of my staff;
I'm growing dimmer in the eyes;
I'm growing fainter in my laughs;
I'm growing deeper in my sighs;
I'm growing careless of my dress;

(continued on page 790)

I'm growing frugal of my goal;
I'm growing wise;
I'm growing—yes—I'm growing old

Although poet Robert Browning depicts a rather negative assessment of aging, his viewpoint is only part of the story.

One of the 20th century's phenomena is the growing influence of the older generation. Undoubtedly we live in a youth-oriented age, but the increasing number of people old enough to be considered old has changed the attitudes and philosophies of many older citizens. Books such as *Here Tomorrow: Making the Most of Life After Fifty*, by Jane K. Belsky, is an example of the increasing amount of literature written about the aging generation. The book jacket features a quote from *The New England Journal of Medicine* calling the book "refreshing, timely, positive; a welcome replacement for the countless how-to books that engage in the game of how to stay young." But staying young is only part of the formula for growing old.

We in the older generation are being sought after. Books, articles, and magazines are devoted solely to this branch of medicine. Politicians recognize the older generation as a political block, a segment of society that must—and will—be heard. We are no longer considered by many to be "drop outs" from present-day society.

Perhaps our gray cells are not as quick on the draw as they were 20 years ago, but our experience increases with each passing year. We who are older need to share our experience with others. This is particularly true in the medical world.

Through the years, we have seen many thought-provoking problems. In busy clinical practice, there is no substitute for research, but the older physician has observed things that he or she should share with those doctors just entering the field. The JAOA has long championed the desire to get some of these experi-

ences into presentable shape for publication. Sometimes they amount to small diagnostic tips, such as the role of the physician in the management of terminal care.

As medicine pushes back the physical deterioration and mental lassitude, the aging generation is growing fast. Retirement may, or may not, be the goal of physicians. But in either case, retirement for life is neither desirable nor even possible.

All of us who belong to the aging generation owe it to ourselves to have positive attitudes and to learn to accept our role in society, not as a generation on a downhill course, but as a generation with its own specific needs and opportunities. Just as pediatricians will tell you that a child is not simply a small adult, but a person who has responses and needs unique to his age group, so too with the older generation.

The elderly are not just tired, worn-out adults. We are special. All clinicians know that the elderly react to medication differently than younger people. The aging process is distinct and inevitable.

A patient of mine once said that there is nothing wrong with getting old; it's just inconvenient. We need to make the most of this "inconvenience."

GEORGE W. NORTHUP, DO
Editor Emeritus

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INDICATIONS AND USAGE: Edema associated with congestive heart failure, hepatic and renal disease, including the nephrotic syndrome.

Almost equal diuretic response occurs after oral and parenteral administration of Bumex. If impaired gastrointestinal absorption is suspected or oral administration is not practical, Bumex should be given by the intramuscular or intravenous route.

Successful treatment with Bumex following instances of allergic reactions to furosemide suggests a lack of cross-sensitivity.

CONTRAINDICATIONS: Anuria. Hypersensitivity and in patients in hepatic coma or in states of severe electrolyte depletion. Although Bumex can be used to induce diuresis in renal insufficiency, any marked increase in blood urea nitrogen or creatinine, or the development of oliguria during therapy of patients with progressive renal disease, is an indication for discontinuation of treatment.

WARNINGS: Dose should be adjusted to patient's needs. Excessive doses or too frequent administration can lead to profound water loss, electrolyte depletion, dehydration, reduction in blood volume and circulatory collapse with the possibility of vascular thrombosis and embolism, particularly in elderly patients.

Prevention of hypokalemia requires particular attention in patients receiving digitalis and diuretics for congestive heart failure, hepatic cirrhosis and ascites, states of aldosterone excess with normal renal function, potassium-losing nephropathy, certain diarrheal states, or other states where hypokalemia is thought to represent particular added risks to the patients.

In patients with hepatic cirrhosis and ascites, sudden alterations of electrolyte balance may precipitate hepatic encephalopathy and coma. Treatment in such patients is best initiated in the hospital with small doses and careful monitoring of the patient's clinical status and electrolyte balance. Supplemental potassium and/or spironolactone may prevent hypokalemia and metabolic alkalosis in these patients.

In cats, dogs and guinea pigs, Bumex has been shown to produce ototoxicity. Since Bumex is about 40 to 60 times as potent as furosemide, it is anticipated that blood levels necessary to produce ototoxicity will rarely be achieved. The potential for ototoxicity increases with intravenous therapy, especially at high doses.

Patients allergic to sulfonamides may show hypersensitivity to Bumex.

PRECAUTIONS: Measure serum potassium periodically and add potassium supplements or potassium-sparing diuretics, if necessary. Periodic determinations of other electrolytes are advised in patients treated with high doses or for prolonged periods, particularly in those on low salt diets. Hyperuricemia may occur. Reversible elevations of the BUN and creatinine may occur, especially with dehydration and in patients with renal insufficiency. Bumex may increase urinary calcium excretion.

Possibility of effect on glucose metabolism exists. Periodic determinations of blood sugar should be done, particularly in patients with diabetes or suspected latent diabetes.

Patients should be observed regularly for possible occurrence of blood dyscrasias, liver damage or idiosyncratic reactions.

Especially in presence of impaired renal function, use of parenterally administered Bumex should be avoided in patients to whom aminoglycoside antibiotics are also being given, except in life-threatening conditions.

Since lithium reduces renal clearance and adds a high risk of lithium toxicity, it should not be given with diuretics.

Probenecid should not be administered concurrently with Bumex.

Concurrent therapy with indomethacin not recommended.

Bumex may potentiate the effects of antihypertensive drugs, necessitating reduction in dosage.

Interaction studies in humans have shown no effect on digoxin blood levels.

Interaction studies in humans have shown Bumex to have no effect on warfarin metabolism or on plasma prothrombin activity.

Pregnancy: Bumex should be given to a pregnant woman only if the potential benefit justifies the potential risk to the fetus.

Bumetanide may be excreted in breast milk.

Pediatric use: Safety and effectiveness below age 18 not established.

ADVERSE REACTIONS: Muscle cramps, dizziness, hypotension, headache and nausea, and encephalopathy (in patients with preexisting liver disease).

Less frequent clinical adverse reactions are weakness, impaired hearing, rash, pruritus, hives, electrocardiogram changes, abdominal pain, arthritic pain, musculoskeletal pain and vomiting. Other clinical adverse reactions are vertigo, chest pain, ear discomfort, fatigue, dehydration, sweating, hyperventilation, dry mouth, upset stomach, renal failure, asterixis, itching, nipple tenderness, diarrhea, premature ejaculation and difficulty maintaining an erection.

Laboratory abnormalities reported are hyperuricemia, azotemia, hyperglycemia, increased serum creatinine, hypochloremia, hypokalemia, hyponatremia and variations in CO₂ content, bicarbonate, phosphorus and calcium. Although manifestations of the pharmacologic action of Bumex, these conditions may become more pronounced by intensive therapy.

Also reported have been thrombocytopenia, deviations in hemoglobin, prothrombin time, hematocrit, WBC and differential counts. There have been rare spontaneous reports of thrombocytopenia from postmarketing experience.

Diuresis induced by Bumex may also rarely be accompanied by changes in LDH, total serum bilirubin, serum proteins, SGOT, SGPT, alkaline phosphatase, cholesterol, creatinine clearance. Increases in urinary glucose and urinary protein have also been seen.

DOSAGE AND ADMINISTRATION:

Oral Administration: The usual total daily dosage is 0.5 to 2.0 mg and in most patients is given as a single dose.

Parenteral Administration: Administer to patients (IV or IM) with GI absorption problem or who cannot take oral. The usual initial dose is 0.5 to 1 mg given over 1 to 2 minutes. If insufficient response, a second or third dose may be given at 2 to 3 hour intervals up to a maximum of 10 mg a day.

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