Arthritis: A very special hell

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By WILLIAM RICE
Science writer

DESPITE THE BEST efforts of medical science, arthritis remains a painful enigma, challenging heart disease as the nation's greatest chronic crippler.

As many as 50 million Americans suffer from some form of it and many millions more will fall under its attack.

It is conservatively estimated that arthritis and other rheumatic diseases cost the nation $3.6 billion annually, of which $1 billion is spent on medical care and another $1.7 billion is accounted for in lost wages.

There's no way to measure the pain and suffering of victims and their kin.

Despite this toll, the government through its National Institute of Arthritis and Metabolic Diseases (NIAMD) is spending only $12,095,000 for arthritis research this year and will cut its efforts back $11,876,000 in 1972.

Why?

Perhaps because arthritis, unlike cancer or heart disease, cripples but does not kill.

Perhaps because years of research by scientists the world over have added up to little more than a long string of false hopes, broken promises, puny palliative measures and, constantly, controversy.

It might be said that arthritis research has escaped the dark ages. But it has not yet emerged into the light.

For most forms of the disease, causes—and cures—are unknown. The doctor's first choice of treatment is still aspirin.

In all, there are about 100 disorders listed under the combined heading of arthritis and rheumatism. They range from the discomforting tennis elbow or bowler's thumb to the exquisitely painful gout to the great crippler, rheumatoid arthritis.

Is It One Disease or Many?

All involve pain and impairment of the body's joints or other connective tissues, but rheumatoid arthritis stands alone in its devastation.

About five million Americans are besieged by this chronic, inflamatory disease of the connective tissue. Some survive its attack relatively whole. Others endure a lifetime of painful bouts and mysterious remissions.

However, from 5% to 10% of the sufferers will succumb. They will not be killed by it, but they will be deformed and permanently crippled and many may wish they were dead.

Yet, despite this toll, the rheumatologists don't even know if rheumatoid arthritis is one disease or many. It strikes the young and old with equal virulence, but each case does not necessarily mirror the next.

"Rheumatoid arthritis is a clinical label," explains Dr. William E. Reynolds, medical director for the Arthritis Foundation.

"We're looking at a group of people who have a lot of things in common and for whom the mechanism of disease as we understand it today seems reasonably homogeneous

"There are all kinds of variants, however, that do crop up and it isn't clear whether we are talking about one disease or what eventually will be two or three different diseases."

To understand the complexities, one first must be familiar with what rheumatoid arthritis does.

Although this disease can attack any of the body's connective tissues—including those of the heart, kidneys, lungs, etc.—its primary target is the joints.

Bones such as those in the elbow, knee and hip are separated by a tough smooth elastic cartilage upon which the bone ends move. The joint and cartilage, in turn, are encased in a fibrous capsule which contains a membrane which produces a substance called synovial fluid. This fluid, in effect, lubricates the cartilage and keeps things moving smoothly.

The Rheumatoid Factor

Rheumatoid arthritis somehow attacks this very fine membrane, causing it to thicken and grow, carpeting the cartilage with a substance called pannus. The cartilage and then the bone it protects become eroded and, finally, the fibrous tissue may be replaced by bone completely obliterating the original joint and fusing the once mobile bones.

The first and main goal of research, of course, is to find the cause or causes of the disease. Once this is known, the chances of discovering a cure or preventive will be far greater.

But what does touch off rheumatoid arthritis? An infection? Bodily rejection processes? Heredity? Endocrine defects? The physical and psychological stress of modern life? Metabolic disorders? At one time or another all have been prime suspects and, even now, none has been exonerated.

However, the first two—infection and rejection processes—are currently in the dock, possibly working in concert and abetted by the other suspects.

Of the infectious agents, viruses and their slightly larger cousins, mycoplasmas, are prime targets of investigation. But if they're guilty, they haven't left many clues.

No one has successfully isolated a virus connected with arthritis' inflamatory process but a number of studies are underway because the National Institute of Arthritis finds that the pattern "of rheumatoid arthritis resembles the pattern seen in infections of lower animals by the so-called 'slow' viruses."

It has been claimed. for instance, that mycoplasmas —living organisms somewhere between a bacterium and a virus—have been recovered from the joint tissues and synovial fluids of arthritic patients, but they could have resulted from outside contamination. Mycoplasmas flourish around us and it is difficult to insure that they don't infiltrate test materials.

Nonetheless, Dr. John L. Decker, chief of the National Institute's Arthritis and Rheumatism Branch, leans toward the mycoplasmas theory, but admits he still lacks the evidence to prove it.

Decker hopes a single infective cause will be found for all because that would greatly simplify development of a countering vaccine. But, "It's fair to call this wishful thinking," he acknowledges.

Are we about to find the answer? An answer?

"I think we're in the dark ages, myself," he replies.

In his opinion, it is a damnably drawn out disease. Unlike. say, polio, which is acute and attacks only once, "rheumatoid arthritis starts and just keeps going—we are looking for a causative agent which may last 45 years."

It could be, he said, similar to the herpes simplex virus which stays with us through life and causes fever sores only at certain times, or it could be that an infective agent triggers arthritis and then disappears, with another factor or factors causing recurrences.

This other factor, some suspect, may involve the body's rejection, or autoimmune, processes.

An autoimmune disease could be called a biological double cross. Normally we produce within ourselves a number of different types of antibodies which act as an army to repel invading microorganisms.

Some attack, recognizing viruses, bacteria, dirt, whatever, as foreign challengers. They develop the invaders and release enzymes which digest them. Then other antibodies lumber along and, like garbagemen, clear the debris from our system.

Sometimes, however, all this does not work to our benefit—as when the body rejects an organ transplant like a new heart or kidney. Arthritis may be caused by the body rejecting some invader or other.

If it is, many researchers believe it must work in one of two ways: Something either must break down the body's defenses to where the antibodies fail to recognize their own tissue, or something must change the tissue to where it takes on the appearance of a foreign body.

To Find a Cure, Find a Cause

Antibodies are carried to attack zones by gamma globulins, protein components of blood plasma, and one type of this stuff has caused more heat in the arthritis field than the disease itself does in the joints. This is that controversial substance called "rheumatoid factor."

A bit of a giant, about seven times the molecular weight of most other gamma globulins—rheumatoid factor is found in the blood serum of about 80% of the adult rheumatoid arthritis patients but, perversely, in only about 20% of juvenile victims.

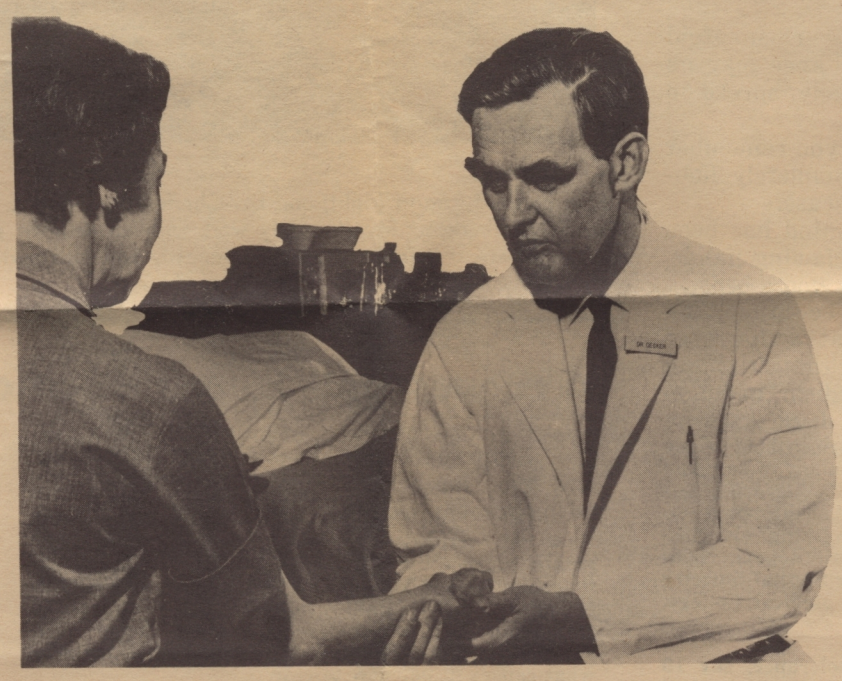
Basically, says Dr. Joseph L. Hollander of the University of Pennsylvania Hospital, this factor attacks other forms of gamma globulin within the diseased joint—in effect becoming an anti-antibody—and sets up the inflamation which causes the arthritic pain and damage. Other researchers agree.

Skeptics point out, however, that rheumatoid factor also has been found in persons suffering such other diseases as syphillis, tuberculosis and viral hepatitis, although in less quantity than in arthritis.

They also challenge the theory that the factor causes the disease or even the inflamation. They wonder if it could be a protector—albeit ineffectual—against whatever is setting off the attack. After all, that's the gamma globulin's normal function.

Next: Aspirin—arthritis miracle drug?

Dr. William Reynolds of the Arthritis Foundation selects a volume from his vast library on the disease.



Dr. John Decker of the NIAMD works with a patient.

'Arthritis research has escaped the dark ages. But it has not emerged into the light. For most forms of the disease, causes are unknown, no cure beacons on the horizon and the doctor's first choice of drugs is aspirin.'

First of a series

ARTHRITIS:

A VERY SPECIAL HELL

Treatments are many, but aspirin is still No. 1

By WILLIAM RICE *Science Writer*

Second of a series

THE DOCTOR says you have rheumatoid arthritis, that the pain in your knee may go away spontaneously or, more likely, spread to other joints.

His words become blurred as you remember your grandmother, who was completely hobbled by this chronic crippling disease.

You try to listen but your mind has been captured by the agony of stiff clawing hands, fused legs, wheelchairs, nursing home beds.

Then the doctor's words begin coming through again. He is saying that with proper drugs and therapy the odds are that crippling will be minimized. Careful medical management is the key. He prescribes a drug. Aspirin.

This ubiquitous over-the-counter drug which people gulp for hangovers, headaches and many other real and imagined ills still is the drug of choice for this disease which has crippled millions. And its not a cop out. Aspirin works—better than anything else, according to specialists like Dr. Bernard Rogoff, rheumatologist at New York's Hospital for Special Surgery and professor at Cornell University Medical College.

Alchemist's remedy

When a patient takes his full tolerance, say 10 five-grain pills every 24 hours, this pharmaceutical workhorse has the definite ability to put down the fire in a painful arthritic joint, with perhaps a stomach upset being the only side effect.

And until an actual cure or some means of prevention is found, holding down inflamation is the name of the game.

After aspirin, rheumatologists might try:

● Gold salts. Gold treatment dates back to the days of alchemy, but today there's little mystery about a shot of gold salts in the butt—except why, in some cases, it cools down an arthritic joint.

There is controversy, however, over its use. Possibly a third of the nation's rheumatologists shun it, apparently because of side effects, which include rashes, mouth ulceration, kidney irritation, occasional blood abnormalities and, in earlier days, some fatality.

Rogoff prefers to use gold shots—which contain only minute amounts of the rare metal and are not expensive—after aspirin and other salicylates fail. However some prescribe it at the onset of the disease.

But while Rogoff defends gold, he'd be quick to discard it if a more effective drug became available.

● Corticosteroids. These power-packed hormones, which include cortisone, are frighteningly powerful. They grant quick relief to the arthritic when given systemically and quell the fires within a day when injected directly into the inflamed joint.

Tailored doses

But, these potent substances influence biochemical behavior of most bodily tissues. Their side effects can be as frightening as their benefits are wondrous.

They can cause demineralization of the bones leaving the sufferer open to vertebral fractures, enchance infections, cause fluid retention and capillary bleeding, aggravate diabetes and cause mental problems and peptic ulcers, among other things.

Obviously, the agents must be given with care and in doses tailored to each patient. Even then adverse side effects often cause withdrawal of medication. Then, for some reason, the arthritis can flare up worse than before.

Nontheless, cortisone is "the most active, dependable antiinflammatory agent there is," declares Rogoff.

● The nonsteriod antiinflammatory drugs, like indomethacin and phenylbutazone. Although these drugs first offered much promise, they have not proved consistent, Rogoff said. He places them in the "for-the-want-of-anything-better" cateogory.

● The immunosupressive drugs. These power-punchers—such as Cytoxan, Imuran and Methotrexate—appear to have some antiiflammatory properties as well as the ability to slow down the war between the body's tissues and its antibody protectors, which some researches believe may cause arthritis.

But they also hamper the antibodies in their all-important job of fighting off germs and may leave the patient wide open to other diseases. They are generally used as drugs of last resort.

Rogoff and other rheumatologists carefully point out that drug therapy is only half the battle; equally important is physical therapy, such as that found at the Hospital for Special Surgery's 35-by-18-foot-pool with its 96-degree water. The body emersed in water is almost weightless, giving the joints a chance to go through their paces without having to bear weights. An arthritic's bathroom tub also can double as a health spa.

Rogoff stresses that a patient must be dealt with honestly and told that his disease cannot be cured, but can be controlled.

Dr. Charles L. Christian, editor of the professional journal, Arthritis and Rheumatism, points out that from 10% to 15% of the 5 million rheumatoid arthritis suffers will, for still unknown reasons, have total remissions.

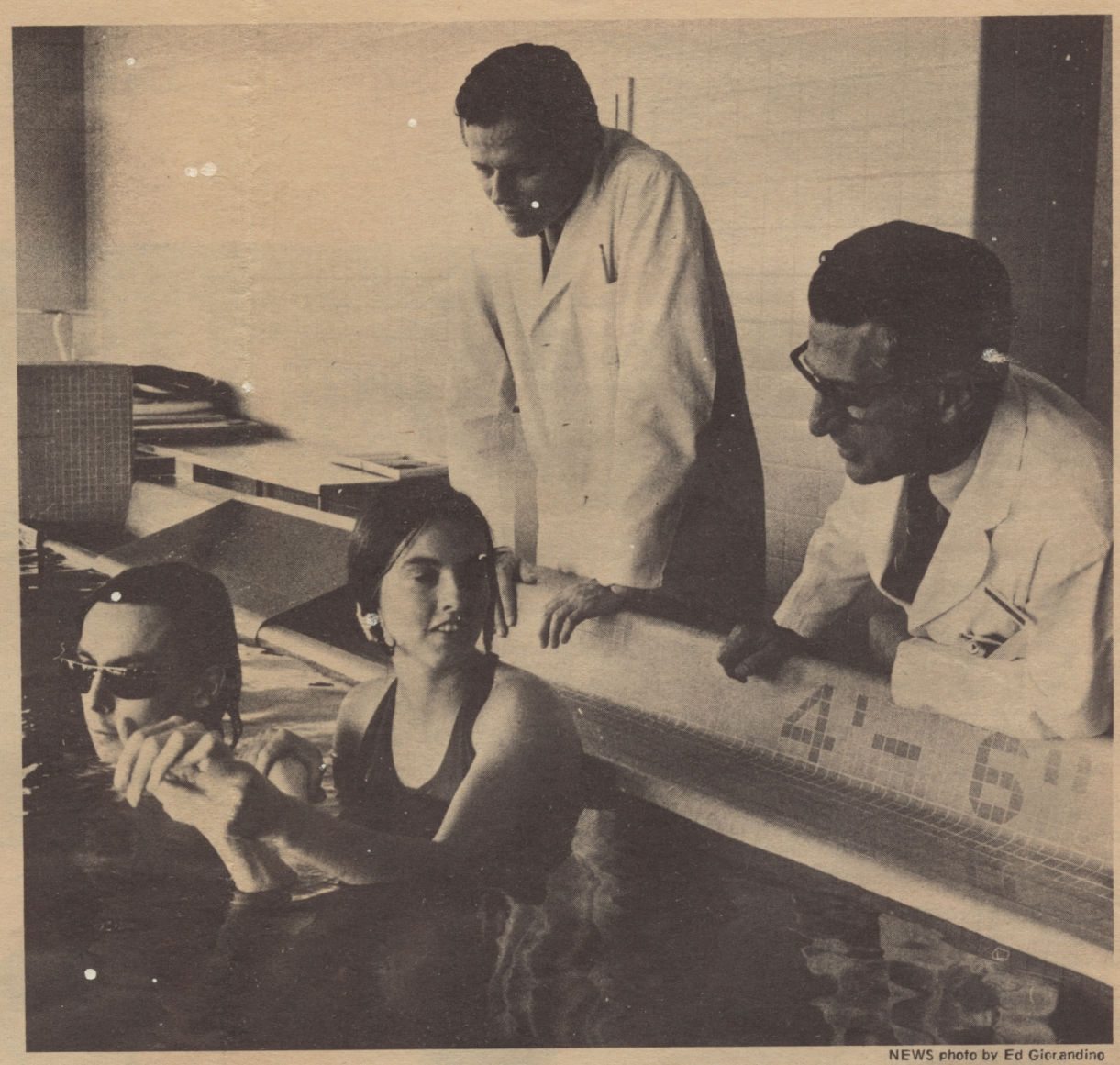
Another large group will respond to treatments and some will be helped by corrective surgery—ranging from early intervention and removal of damaged membranes, to reshaping of deformed hands, to the total replacement of the hip joint.

But, still, there will be a huge number—possibly 5% to 10% of those striken, who will slowly wind down the excruciatingly painful path to total disability.

"This is why Rogoff claims the rheumatologist's rule is: "Well, if it's not harmful, try it."

"This is why that any drug that comes out with any claim of antirheumatic benefit will be used. The physician is so damned frustrated that he'll listen and hope that some of his cases will improve."

Next: Quackery and the misery merchants



NEWS photo by Ed Giorandino

Dr. Bernard Rogoff (right) and Dr. Charles Christian of the Hospital for Special Surgery watch physical therapist Sue Kennedy work with an arthritis patient in hospital's therapeutic pool. Rogoff stresses that a patient must be dealt with honestly and told that his disease cannot be cured, but can be controlled.

A rogues' gallery of arthritic and rheumatic diseases

Rheumatoid arthritis is the most crippling and most feared of the joint diseases, but by no means the only one. There are also:

● Osteoarthritis. Everyone, if he lives long enough gets a touch of it, but it seldom cripples except, at times, in the hip, and usually is only moderately painful. Unlike rheumatoid arthritis, it doesn't spread from join to joint and inflammation rarely is a problem. As with rheumatoid, nobody knows for sure what causes it, nor how to cure it.

Drugs, rest, special exercises, heat, surgery and rehabilitation can control it.

● Gout. The first form of arthritis to be practically conquered by medical science. Acutely painful, the disease usually comes from an inherited defect that allows the body to load itself with uric acid, which forms needlelike crystals in the joints, leading to severe inflammation. A number of drugs—among them colchicine, probenecid and allopurinol—can control the attacks.

● Systemic Lupus Erythematosus (SLE), most frequently attacks women between the age of 20 and 40, but one out of five times strikes males and can hit at any age.

Like rheumatoid arthritis, it inflames and damages connective tissue and follows a chronic and irregular course. There is no known cure and, generally the only treatment involves rest; painkillers and antiinflammatory drugs.

● Ankylosing spondylitis, a disease of the spine, strikes men eight times more often than women and almost always begins in young adulthood.

Stiffness of the spine may progress until there is complete rigidity and a curvature which forces the sufferer into a stooped position. It also can strike other joints, especially the hips and shoulders, and sometimes can cause inflammation of the eyes.

Here, too, the causes are unknown, although medication and physical therapy can control the discomfort and deformities. The disease usually goes away after several years although the stiffness remains.

● Psoriatic Arthritis. About one of every 10 cases of psoriasis—a common skin disease which affects more than 4 million Americans—is complicated by an ailment which closely resembles rheumatoid arthritis. Little is known about the disease and the treatment generally is the same as for rheumatoid arthritis.

● Rheumatic Fever. Caused by a streptococcus infection and doing its chief damage to the heart, this is considered an arthritic disease because it inflames joints. Antibiotics keep the disease from recurring.

● Scleroderma. Causes a thickening and hardening of the skin, at times with inflammation and scarring of the muscles and internal organs. It is accompanied with arthritic symptoms in the joints. The cause is unknown and there is no completely successful treatment method.

ARTHRITIS: A VERY SPECIAL HELL

Its victims are sitting ducks for quacks

By WILLIAM RICE *Science Writer*

Third of a series

IN ST. PETERSBURG, Fla., a badly arthritic patient slops himself down with axle grease in the belief that it will soothe his fiery joints—then he writes to the Arthritis Foundation to ask how to get the stains out of his white slacks.

In Kentucky, a rheumatologist who should know better, pops a horse chestnut into his pocket in hope of warding off an arthritic attack.

In Boulder, Mont., arthritics huddle in their wheelchairs 85 feet below the surface in a uranium mine. They think maybe the radioactive powers will purge their disease.

Golfer Bert Yancey sports a copper bracelet, as do a flock of other athletes, actors, actresses and, if you check closely, some of the guys and girls in your own office or shop. And they're not being worn for esthetics but for their alleged power over arthritis.

People who suffer from or fear arthritis pay out an estimated $408 million a year nationally for nostrums and quack remedies.

In themselves, many of the gadgets and folk treatments aren't particularly harmful; a horse chestnut in the pocket won't hurt unless you sit on it. The danger is that they can raise false hopes while keeping the patient from modern medical care.

Intolerable pain

Jerry Walsh, a rheumatoid arthritic who's been the route and knows wherefrom he speaks, estimates that as many as 90% of the victims have fallen for quack cures at some time. And he figures they'll be around as long as there isn't a real cure or palliative.

Walsh, an investigator for the Arthritis Foundation, points out that the course of the disease makes rheumatoid arthritis a particularly fertile field for quackery. The pain can get so intolerable that it forces the patient into a wheelchair or to bed, crippling his hands, immobilizing his legs. Then, suddenly and for no apparent reason, there is a remission. The victim can stand again, walk, use his fingers.

Prudent medicine calls for drugs and physical therapy during the good times as well as the bad.

But for some, the pain during flare-ups goes unabated despite the drugs, driving the sufferers to try weird devices, kookie diets, anything. Then, if the pain suddenly vanishes when they're guzzling cod liver oil and orange juice or packing their kneecaps in horse manure, it's often impossible to convince them that it wasn't because of the nostrum. Especially when their doctors must admit that they don't know what causes the disease or why its symptoms mysteriously vanish sometimes.

The Arthritis Foundation has a long list of physicians and others who are willing to feed unproved and sometimes dangerous cures to the unwary. Some practice within the U.S., carefully skirting the law. Others ply their trade along the borders in Mexico and Canada.

The foundation prefers to keep these practitioners' names out of print, however, not because it fears lawsuits, but because it knows that, no matter what is said, some sufferers will beg the quacks for treatment.

Walsh reports to have investigated somewhere between 1,200 and 1,300 useless "cures." Of them, he said, more than 900 were offered by persons who "knew they weren't of any value, who knew they were frauds." The quack's interest is money, not disease.

The bathtub spa

Some are brash enough, Walsh says, to mail their wares right to him at the foundation's New York offices. And if he doesn't return each device, he knows the peddler will be telling his prospects that "Jerry Walsh of the Arthritis Foundation even has one."

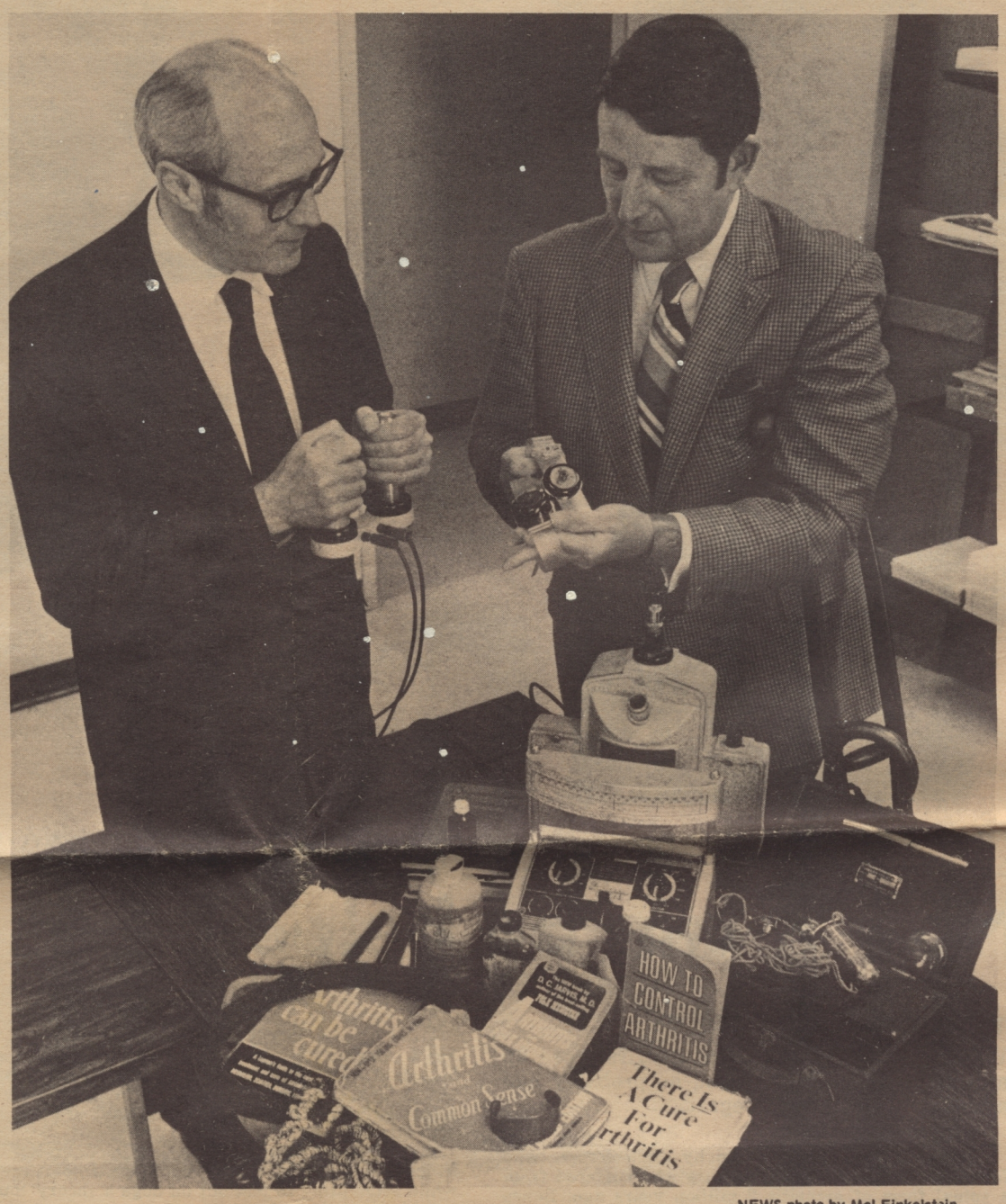
Walsh has assembled a collection of quackery—machines, recipes, wonder tonics, useless pills—which he uses on speaking tours. Although he carefully explains their worthlessness, pieces are constantly stolen, apparently by arthritics who will try anything.

Walsh admits that he, too, once tried "a disinfectant which was used to clean latrines during World War I."

Arthritics might possibly get some help from the warm waters and rest at health spas, but professionals such as Walsh point out that warm waters can be found right in your own bathtub.

There seems to be no proof that minerals in the waters have any medical effect on arthritis.

Quackery, Walsh believes, has come a long way since snake oil days. Electricity, with its special language, gave vast new scope to the inventive quack. In the late 1920s and early 30s, there were even machines on which you could dial your disease and receive a card with symptoms and cures.



NEWS photo by Mel Finkelstein

Dr. William E. Reynolds and Jerry Walsh of the Arthritis Foundation examine some of the Foundation's impressive collection of useless gadgets, preparations and books claiming cures for arthritis.

Of vinegar, yams, avocado leaves and manzanita

Millions of dollars have been spent by the government, the Arthritis Foundation and others to warn sufferers away from ineffective — and sometimes harmful — folk cures. But still they believe.

Here are just a few examples of letters received by the foundation:

"I disagree with you that honey and vinegar do not help arthritis. When I was in my 40s my hands were so crippled they wouldn't close and I had very little use of them. Someone told me to take honey and vinegar which I did, and in six months my hands were nearly back to normal."—Onancock, Va.

"My experience with my own arthritis has plainly shown me that an arthritic has a much more beneficial source of cortisone from eating sweet potatoes or yams than they get from shots of cortisone. Doctors would not make money by only telling arthritics to eat yams."—Ben Lomond, Calif.

"Simply take two quarts of water and eight or nine avocado leaves. Simmer (not boil) till about one quart. Drink three glasses a day. It does not taste bad and in less than three months dad was completely cured."—Corona, Calif.

"So I decided to try it (iodine) for my arthritis. It was just about three months when I realized I wasn't having such hard pains and I just took the iodine and whether you believe it or not or think I am some sort of fool the fact still remains that I cured myself."—Easthampton, Mass.

"Some friends were drinking a tea made of branches and leaves of a bush called manzanita, found in scrub-oak country in Calif. which helped them a great deal. I tried it for two weeks and by then the pain was gone."—Mexico City.

Then came the vitamin fads, the phony "radioactive" cures and seawater cures. Now, Walsh says, the big thing is moondust. He claimed that an outfit in Memphis is selling—at $100— bags of powder they say contain a microscopic amount of this extraterrestrial stuff.

Of course, how anyone could get moondust out of the hands of our space agency is as big a mystery as why anyone would think moondust would help his arthritis.

"These people (the peddlers of unproved and worthless cures) can get $408 million out of our arthritics," Walsh complains. "But we can't get more than $15 million in government and foundation funds for research, teaching and training."

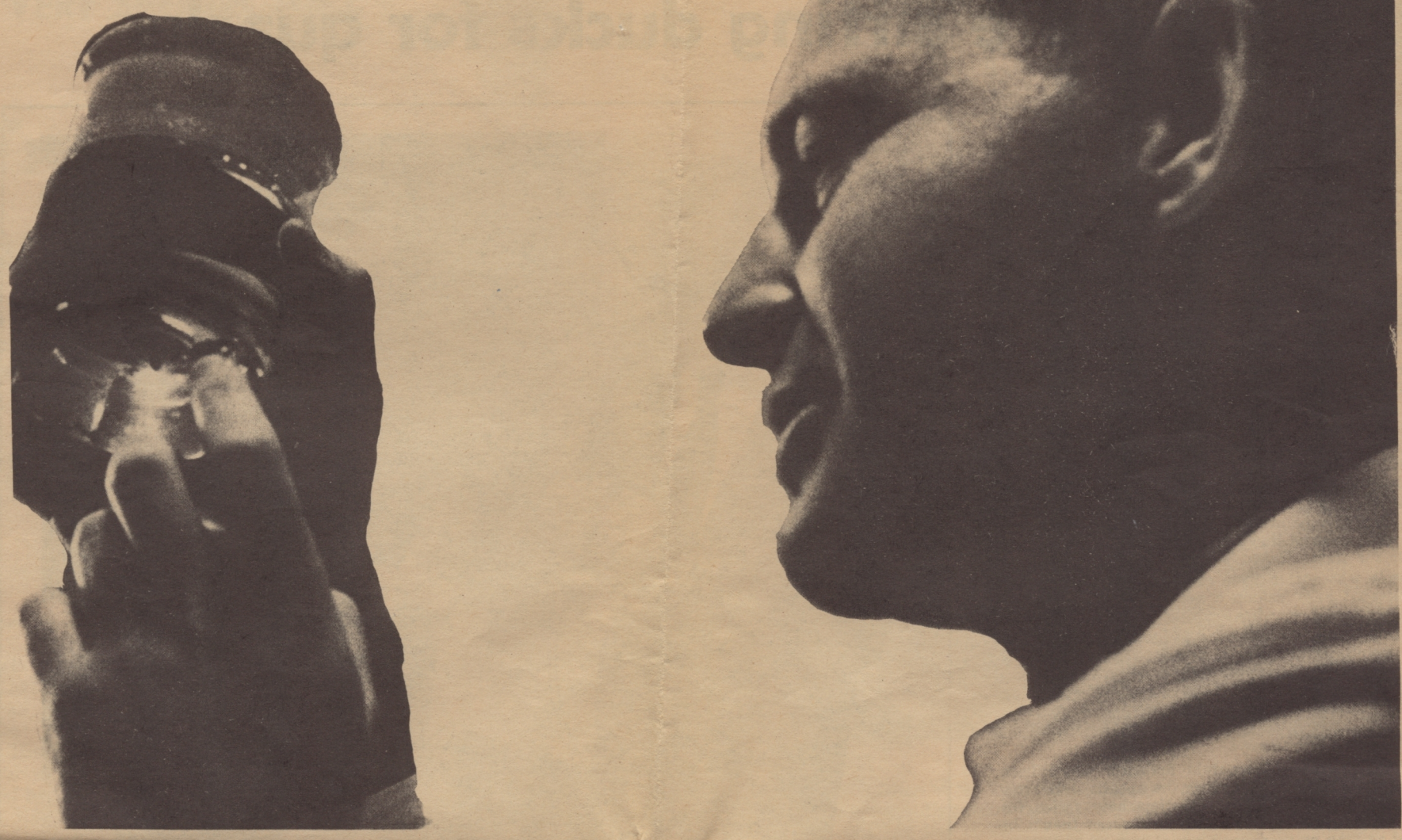
Walsh, who walks with a crutch and cane and knows the pain, once told a U.S. Senate committee what he would do if offered still another "medicine" with the claim that it could relieve his pain.

"To be honest, Senator, if nobody was looking, I'd give it a try."

Next: What can be done

ARTHRITIS: A VERY SPECIAL HELL

Last of a series



Dr. Gerald Weissman (above) is on a team of doctors at N.Y.U. Medical Center researching possible causes of arthritis.

Now it can be helped, but not yet cured

By WILLIAM RICE *Science Writer*

WHEN THAT apelike creature first rose up and declared himself a man, he probably had a twinge. But it wasn't regret.

It was a backache.

Proof of this was dug up by archeologists who found bones of a manlike creature who suffered from a spinal form of arthritis 2 million years ago. Bones of the Java and Lansing men showed that they, too, suffered from the disease a half million years before Christ.

In fact, this chronic crippler is one of the oldest medical bafflers. Man has tried diets, gadgets, drugs, surgery, sorcery, just about everything, but he still doesn't know what causes arthritis or how to cure it.

But science has advanced far enough to be able to prevent crippling in many cases and to correct it in others. Still, this is not enough, particularly when it comes to the most virulent form of the disease—rheumatoid arthritis—and researchers are sticking to test tubes.

Although they haven't come up with complete answers, their work has turned up a number of clues and, here and there, the prospect of something better emerges from the welter of unredeemed promises.

Dr. Donald A. Gerber of Downstate Medical Center in Brooklyn, for example, believes he's on the right track.

Results good — so far

Building on the discovery made more than 20 years ago that rheumatoid arthritics had about one quarter less of the amino acid called histidine in their blood than normal persons, he is giving patients daily oral doses of a form of the amino acid called L-histidine. Preliminary results with 66 patients over an average nine-month period indicate that victims are obtaining relief.

Gerber reports that they show general improvement in grip and walking gait, but notes that long careful evaluation will be required to confirm the effectiveness of L-histidine.

Gerber believes that his research could also point the way to the causes of rheumatoid arthritis. Unlike most of his fellow investigators, he theorizes that the disease is at least in part a metabolic disorder. Most researchers believe that some still undefined virus or other microorganism is the cause, or that arthritis is an autoimmune disease, generated by some malfunction of the system's own antibodies.

However the damage is done, surgery can now relieve a number of the disease's crippling effects, restoring function to deformed hands and feet and even, in the latest bravura example, entirely replacing a crippled hip with a polyethylene cup and stainless-steel ball.

And there are still other encouraging developments on other fronts in the treatment of rheumatoid arthritis.

A cardiologist in Los Angeles, Dr. John K. Vyden, believes he has stumbled upon an important clue while attempting to test out on dogs a theory concerning high blood pressure.

While continuously being given norepinephrine, one of the adrenal hormones which charges a person during a fight-or-flight situation, the animals developed rheumatoid arthritis-like symptoms.

Opening a new avenue

Vyden then carefully measured the blood flow of 10 arthritis patients and, he said, found diminished blood flow to the fingers and toes and increased flow to the muscles. Both signify fight-or-flight responses. So now he is testing to see if drugs such as propranolol—which can block some of the body's adrenal response—will help arthritics.

Although Vyden cautions that an effective treatment could still be a long way off and that his findings do not mean that the cause of arthritis has been found, he believes he has shown that a vascular disturbance is involved which would explain why persons who suffer strokes lose their rheumatoid arthritis, if they have it, on the stroke side.

"The important thing is that it is opening a new avenue of research," says Vyden of his investigation, undertaken at L.A.'s Cedars-Sinai Medical Center.

Another group of chemicals which some day may prove to be big swingers in the arthritis field are the prostaglandins, being studied by Drs. Gerald Weissman, Robert B. Zurier, Franco Quagliatta and others at the New York University Medical Center.

These fatty acids normally are widely distributed through our tissues, and researchers say they hold the promise of being morning-after contraceptives, ulcer and cold cures, anticancer agents and even more.

So far as arthritis is concerned, however, the NYU researchers admit that treatment with prostaglandin compounds might not work and even if it does, is at least 10 years away.

Test tube experiments, however, suggest that one of the prostaglandins can block release of certain corrosive enzymes believed to cause inflammation and cartilage degradation in arthritic joints.

This prostaglandin appears to prevent induced arthritis in rats. But rats are a long way from being men, and what causes or prevents arthritis in rodents may be wholly unrelated to what works in humans. Same goes for pigs, which takes us to the research of Dr. John L. Decker and Dr. John Barden.

They have found that a microorganism called mycoplasma hyorhinis can cause a disease in pigs which shares many features with human rheumatoid arthritis.

Other areas being probed include genetics, the environment, sex differences—anything that may provide clues.

For instance, population surveys have shown that the Blackfeet Indians of chilly northern Montana have fewer cases of rheumatoid arthritis than do the Pima Indians of sunny southern Arizona. This is contrary to the thought that the disease is more prevalent in the northern climes.

It also was discovered that in both tribes the disease was as prevalent among men as it was among women. This breaks the usual pattern where women are two to three times more prone to rheumatoid arthritis than are their mates.

Another puzzler posed by this enigmatic disease is that symptoms often disappear during pregnancy, raising the possibility of a link between the disease and female hormones.

Stress plays a part

It also has been recognized that emotional and mental stresses somehow play a part in the flaring up of arthritic attacks, but no one has been able to completely say why.

As Decker puts it: "We don't know how to prevent the disease and we can't tell people to avoid pregnancy or emotional shock. It's potentially possible to develop a vaccine, but this appears to be an unimaginable distance in the future."

What is needed right now, he said, are a series of centers across the nation devoted to the total treatment of rheumatoid arthritis regardless of the patient's ability to pay.

Presently, Decker pointed out, few victims have the insurance or are financially able to afford the long, extremely expensive bouts of hospitalization, drug treatments, surgery and physical therapy necessary to ward off crippling in the later stages of the disease.

All this takes money, of course, which is getting harder and harder to find. The National Health Education Committee points out that this nation spends almost $250 million for hair coloring preparations but only around $20 million for arthritis research.

So a lot more money is needed, but where should it go?

Treatment areas obviously need a lot of it; up to 10% of those with rheumatoid arthritis today will be so disabled 10 years from now that they will be in wheelchairs unless they get adequate treatment. The other big area is clinical research on causes and cures. If—and it's a big if—the money is put in, arthritics can face the future with something like hope.