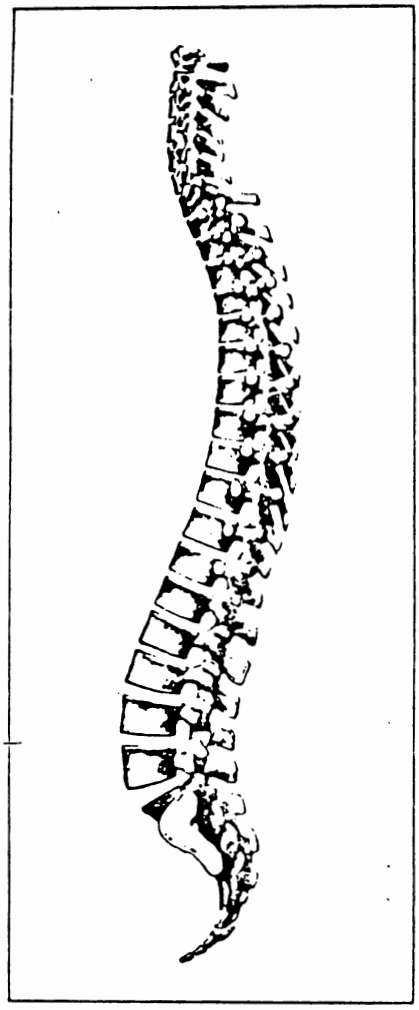


CHIROPRACTORS
HEALERS OR QUACKS?

Can the chiropractor serve some of your health-care needs? Pointing to the more than 5,000,000 persons who visit chiropractors in the United States and Canada each year, the chiropractic profession insists it offers an important health service. Its critics in medicine and science think otherwise, however, and assert that chiropractic is a danger to patients. In this first of a two-part series, CU explores the reasons for that controversy and examines some of the theories and practices of chiropractic, a system of therapy that claims to restore or maintain health by spinal manipulation.

PART 1: THE 80-YEAR WAR WITH SCIENCE

In a voice charged with emotion, Dr. Joseph Janse, president of the National College of Chiropractic, was addressing the hushed audience in the conference room.

"For me to stand here and exclaim or explain that I and my people, or those who preceded me, have never indulged in mishap or overclaim . . . would be dishonest.

". . . I am not, and we are not, necessarily proud of those that we are responsible for, and have to live with. But I do hope . . . this workshop will not deny the people of my profession the privilege of progress and ethics."

As on many previous occasions, Dr. Janse was responding to a challenge to chiropractic. But this occasion last February was different from the rest.

The conference, a "Workshop on the Research Status of Spinal Manipulative Therapy," was taking place in Bethesda, Md., at the National Institutes of Health (NIH). Never before had chiropractors participated in an international scientific conference in the United States, much less at the NIH, one of the world's foremost medical and biological research organizations.

Throughout its 80-year history, in fact, chiropractic has largely rejected or ignored advances in medical science fostered by agencies like the NIH. In turn, medical and government officials have generally branded chiropractic as "an unscientific cult" or "a significant hazard to the public." This time, however, the planning commission for the meeting—which was held in response to a Congressional mandate—included three chiropractors among its eight members.

The arrival of chiropractic in such a prestigious stronghold of science marked the latest in a series of developments that would appear to lend support to the chiropractor's demand for general recognition as a legitimate practitioner of the healing arts.

Despite opposition from organized medicine and the U.S. Public Health Service, chiropractors in 1973 won the right to render some services under both Medicare and Medicaid. Soon after, they achieved licensure in Louisiana and Mississippi, the last two holdouts among the 50 states. (The same period saw similar chiropractic gains in Canada.)

The crowning triumph for American chiropractors came in August 1974, when the U.S. Commissioner of Education recognized an accrediting agency for chiropractic colleges. Now colleges accredited by the Council on Chiropractic Education have official national standing. Previously, degrees

conferred by such institutions—such as the "Doctor of Chiropractic" degree (D.C.)—were listed as "spurious" by the U.S. Office of Education. Recognition also meant that accredited chiropractic schools would be eligible for financial assistance under a variety of Federal funding programs.

Chiropractic, in short, has made undeniable progress in professional status and access to government-funded programs. Whether those gains mean equivalent progress for health care, however, is another question. In CU's view, the answer depends on whether chiropractic is a valid method of treatment or, as its critics contend, a form of quackery.

To explore that question, CU studied the current claims and practices of the profession to determine what chiropractic is and what potential benefits or harm a patient might experience. Our report is based on a six-month investigation by Joseph R. Botta, a Senior Editor of CONSUMER REPORTS who specializes in medical and environmental reporting. The investigation included an extensive review of chiropractic and medical literature, as well as the findings of pertinent national, state, and provincial government studies conducted in the U.S. and Canada over the last decade. CU visited three chiropractic colleges—Palmer, National, and Canadian Memorial—and also interviewed officials of the principal chiropractic associations, whose memberships include virtually all of the 15,000 U.S. chiropractors in active practice and some 1400 chiropractors in Canada. CU also conducted interviews with American Medical Association representatives and with medical practitioners in orthopedics, physical medicine, neurosurgery, radiology, and other specialties. In the interest of objectivity, the assistance of CU's medical consultants was sought only for clarifying medical terminology or practices.

Chiropractic, which literally means "done by hand," originates from the theories of Daniel David Palmer, a tradesman who operated a "magnetic healing" studio in Davenport, Iowa, late in the 19th century. According to Palmer's writings, one of the passions of his life had been to discover the ultimate cause of disease —why one person should be ill while another, "eating at the same table, working in the same shop," was spared. "This question," said Palmer, "had worried thousands for centuries and was answered in September 1895."

The answer occurred to him, wrote Palmer, after treating a janitor he claimed was deaf. Palmer alleged that he restored the man's hearing by adjusting one of his vertebrae, the bony segments of the spine.

Apparently unaware that the nerves of hearing are entirely in the skull, Palmer theorized that he had relieved pressure on a spinal nerve that affected hearing. Adjusting the vertebrae, he decided, had removed interference with the nerve supply and thereby allowed the body's "Innate Intelligence" to effect a cure. Innate Intelligence, according to Palmer, was the "soul, Spirit or Spark of Life," which he believed expressed itself through the nervous system to control the healing process. By supposedly impeding that expression, misaligned vertebrae were judged by Palmer as the cause of most disease.

In 1895, Palmer's emphasis on the spine raised fewer eyebrows among medical practitioners than it does today. Louis Pasteur had only recently demonstrated the plausibility of the germ theory of disease. And little more than a generation separated Palmer from many eminent physicians who had viewed the spine as the seat of innumerable human ills. It had been a common practice, in fact, to apply leeches, irritants, or even hot irons to tender sites along the spine as a treatment for various disorders.

By the end of the 19th century, however, such practices had waned. The scientific revolution that would shatter the boundaries of medicine in the 20th century had already begun.

Osteopathy, which emerged a few years before chiropractic, adapted to the change. While retaining a separate identity—partly because of its use of manipulative therapy and its emphasis on the muscles and skeletal system—osteopathy gradually adopted the concepts and practices of orthodox medical science as well. Osteopathic students now receive training similar to that of medical students and earn a Doctor of Osteopathy (D.O.) degree. In contrast, chiropractic maintained its allegiance to the 19th-century focus on the spine.

CHIROPRACTIC THEORY NOW

Some chiropractors still cling strictly to Palmer's theory that misalignments of the vertebrae—or "subluxations"—are the principal cause of disease. Such practitioners tend to advertise that chiropractic is crucial to good health. One recent ad, for instance, called vertebral subluxation "a killer of millions of people yearly."

In the main, however, chiropractic now recognizes other factors in illness. It tends to assign bacteria and viruses a back seat, but it no longer ignores their existence. Essentially, it has modified Palmer's theories to accommodate some basic scientific realities.

For example, modern chiropractic agrees with medicine that germs are factors in disease and that the body has inherent defense mechanisms against them. However, chiropractic stresses that *mechanical* disturbances of the nervous system are what impair the body's defenses. According to this theory, minor "off-centerings" of the vertebrae or pelvis might disturb nerve function and lower the body's resistance to germs. Structural misalignments, say chiropractors, may also disturb nerve impulses to the visceral organs, allegedly causing or aggravating such illnesses as heart disease, stomach ulcers, and diabetes.

"While many factors impair man's health, disturbances of the nervous system are among the most important," asserts the American Chiropractic Association. According to the association, almost anything can cause a mechanical subluxation that might trigger nerve disturbances: gravitational strains, asymmetrical activities and efforts, developmental defects, or other mechanical, chemical, or psychic irritations. "Once produced," claims the association, "the lesion becomes a focus of sustained pathological irritation."

THE CHIROPRACTIC ADJUSTMENT

While Palmer's theory of disease has been modified, the primary chiropractic treatment for all human illness remains the same as in 1895: spinal adjustment.

Chiropractic adjustment is a specific form of spinal manipulation. The technique, which is also used occasionally by osteopaths, physical therapists, and some medical doctors, is distinguished by the suddenness or speed of the maneuver, which prevents any control by the patient. By comparison, a patient can voluntarily resist—and therefore control—a manipulation when the therapist does it slowly or rhythmically. If there is pain, for example, the patient can physically prevent further movement or advise the therapist accordingly. The latter technique, which is gen-

erally called "mobilization," is the most common type of joint manipulation used by physical therapists.

In contrast, chiropractors emphasize the sudden maneuver, which they call a "dynamic thrust." It may be done gently or forcefully, but always with a quick movement. The maneuver often produces a click-like sound in the manipulated joint.

Medical and osteopathic practitioners who use the technique agree that it is sometimes effective for treating certain joint abnormalities or pain originating in the back or neck. There is disagreement among them, however, about what conditions it helps and exactly how it does so.

One prominent theory is that the manipulation essentially restores joint mobility, including a measure of "joint play" that isn't apparent in voluntary movements. Another is that the technique may displace a small fragment of a spinal disk that may be pressing against adjacent tissue. Others suggest that the sudden force may stretch a contracted muscle or tear adhesions, possibly relieving a local pain-causing spasm. Some manipulators subscribe to one theory while others believe several are possible. As yet, there's no proof that any is correct.

The chiropractic explanation is that the maneuver corrects subluxations. However, the current chiropractic definition of subluxation is so broad that it takes in virtually any mechanical or functional derangement of the spine—or, as one speaker at the NIH workshop put it, "any variance from the normalcy of a newborn child." As a result, the chiropractic view does not reject any of the other theories. A locked joint or offending disk fragment would simply be labeled a subluxation.

Thus, most manipulators believe that their action affects some local condition, whatever it may be. The real quarrel arises when chiropractors claim that their manipulation *also* influences the nervous system and helps prevent or cure disease, an issue we will discuss later in this report.

BIRTH OF A 'BACK SPECIALIST'

Despite chiropractic's origin and all-embracing theory of disease, many persons tend to view chiropractors as specialists in muscle or joint problems, particularly those of the back.

Part of the reason, of course, is that chiropractic manipulation focuses on the spine. Whatever its ultimate intent, the therapy involves direct, physical action on the back. So people may conclude that that's what the treatment is for.

But there are other reasons as well for this traditional association. For one thing, the medical contemporary of the early chiropractor gave little priority to back ailments. The new science of bacteriology held immense promise for treating otherwise fatal illnesses, as did other developments in diagnosis and surgery. Hence, medical efforts in the first third of this century focused on infectious disease and similarly urgent problems. Backaches could wait. Not until the 1930's did the medical profession start paying much attention to physical medicine and rehabilitation. In the interim, chiropractic seemed to offer hope in an area that medicine had largely ignored.

Even today, many physicians find little satisfaction in treating back ailments. Chronic pain may often be influenced by psychological problems or physical habits that patients are unable or unwilling to change. Exact diagnosis can be elusive and expensive, and follow-up treatment can be time-consuming for the doctor. Specialists in physical medicine and orthopedics interviewed by CU asserted that, too often, treatment by some physicians simply meant prescribing a painkiller, muscle relaxant, or tranquilizer rather than taking the time and effort such ailments might demand.

STEPPING INTO THE GAP

Chiropractors, meanwhile, have usually been ready and willing to see patients repeatedly and provide active treatment—manipulation, exercise programs, heat application, and the like. In CU's opinion, such accommodation has probably reinforced the belief that chiropractors specialize in back ailments. Indeed, a survey conducted several years ago by the University of Kentucky College of Medicine revealed that most of the people in the study who visited chiropractors believed that a chiropractor has more specialized training in musculoskeletal back and joint problems than a physician has. Actually, chiropractors usually have more training than medical doctors in only one area: manipulative therapy.

Chiropractors who belong to the International Chiropractors Association (about 37 per cent of practitioners) often confine their treatment solely to manipulation. Besides spinal adjustment, treatment may include various "soft-tissue" manipulations, such as massaging muscles or applying sustained pressure to ligaments. But the basic approach is "hands only."

Most other chiropractors, however, use a variety of treatment techniques. The scope generally depends on what's permitted by state or provincial law. Chiropractors may not practice surgery or order prescription drugs. But many jurisdictions allow them to use physiotherapy and to recommend various nutritional supplements, such as vitamins and minerals.

The types of treatment are often similar to some used by physicians or physical therapists (although the purpose or application may not always be the same). In addition to exercise programs, such measures may include the use of braces or casts, whirlpool baths, hot or cold packs, ultrasound, diathermy machines, and other devices.

Chiropractic, in short, is seldom limited to spinal adjustment alone. Chiropractors often can, and do, make use of common measures for treating muscle or joint complaints. And some limit their practice almost exclusively to such complaints, frankly dismissing Palmer's disease theory as "cultism" or "chiroquackery."

An undetermined number also try to cooperate with local physicians, referring patients who appear to need medical care and occasionally receiving a referral in turn. Last April, for example, Medical Economics, a magazine distributed to physicians, reported the response of more than 1000 office-based M.D.'s to a survey it conducted of referral relationships with chiropractors. More than 20 per cent stated that they received some referrals from chiropractors. Almost 5 per cent of the respondents said they sometimes referred patients to chiropractors.

On the basis of CU's investigation, however, such instances of cooperation, or of chiropractic willingness to limit its scope of practice, tend to be the exception rather than the rule. Chiropractic officials and educators invariably told CU that the chiropractor's role was that of a *primary physician*, not a muscle-and-joint practitioner. They emphasized that chiropractors should serve as one of the "portals of entry" to the health-care system, functioning essentially as family doctors and referring patients, when appropriate, to other health professions.

Such a role assumes that chiropractors, despite much less diagnostic training than M.D.'s or D.O.'s, will recognize when to treat a patient and when to refer one to a physician. It's on this point—and on the question of scientific validity—that chiropractic clashes most seriously with organized medicine.

TOO MUCH COMPETITION?

For years, chiropractic spokesmen have argued that medical or scientific opposition to chiropractic is largely a business quarrel. According to the charge, organized medicine is a monopoly concerned primarily with aggrandizement of physicians, and the American Medical Association is just trying to keep out the competition. The book "Chiropractic: A Modern Way To Health," which was recommended to CU by chiropractic offi-

cials, typically points the accusing finger at the AMA:

". . . the AMA is a private group of men and women with a common private business interest, namely the practice of medicine," writes the author, Julius Dintenfass, D.C., a charter member of the New York State Board of Chiropractic Examiners. "Despite their vaunted concern for the public health and welfare, the medical sachems act toward chiropractic as any collection of businessmen being threatened by a rival concern which seems to have the kind of merchandise that customers prefer."

When CU discussed the allegation with chiropractic officials, we expected to find wide agreement with it. We didn't.

"It's not true," said Richard C. Schafer, D.C., director of public affairs for the American Chiropractic Association. "The average medical doctor has more patients than he can handle," Dr. Schafer said. "They're not afraid of competition."

Why, then, does organized medicine oppose chiropractic?

CU got several answers from AMA representatives and other critics. They involved charges of inferior education and training, rejection of medical science, and abuses or hazards arising from the practice of chiropractic.

Since those allegations have serious implications for patient care and safety, CU investigated them in detail.

CHIROPRACTIC EDUCATION

There is virtually no denial that educational standards for chiropractors in the past were often little short of appalling. As late as 1945, according to Medical World News, it was still possible to get a mail-order Doctor of Chiropractic degree from a Chicago college for $127.50.

Although standards later improved, glaring deficiencies prevailed until recent years. The scope of the problem was outlined in a thorough evaluation of chiropractic schools conducted in 1964 by Dewey Anderson, Ph.D., who was then director of education for the American Chiropractic Association. Some of the inequacies mentioned in Dr. Anderson's report were: "Too many instructors teaching the basic sciences without having had any advanced or graduate training in these sciences. Too many instructors not trained or qualified as teachers nor masters of their fields, resulting in slavish devotion to textbook teaching and instruction considerably below the level of post-college professional education."

The academic credentials of the students, Dr. Anderson noted, were similarly deficient.

"One of the most serious handicaps . . . is that of trying to teach at the post-college professional level students who for the most part have not gone beyond high school, and who in high school were not in the upper half of their classes. For many of them a professional college course is too difficult to master."

The result, said Dr. Anderson, was to downgrade instruction so that students could pass the courses.

A comprehensive study of chiropractic conducted in 1965 for the government of Quebec reached similar conclusions. Student admission requirements were termed "too liberal, and inadequate," and the training required of teachers was judged "definitely inferior" to that demanded either by medical schools or by university science departments. "A great number of these teachers are chiropractors who have received training in basic sciences of very little value," said the Quebec study.

Landmark studies of chiropractic by the U.S. Department of Health, Education, and Welfare in 1968 and Ontario's Committee on the Healing Arts in 1970 expressed similarly critical findings. In addition to poorly qualified teachers, inferior basic science courses, and notably low admission requirements, both reports criticized the lack of any emphasis on research. The HEW report also noted the absence of inpatient hospital training and a poor ratio of faculty to students. At the time of HEW's study, chiropractic schools averaged about one faculty member for each 19 students, compared to one per 1.7 students in medical schools. (Both figures include part-time instructors with administrative duties or outside practices.)

"The scope and quality of chiropractic education do not prepare the practitioner to make an adequate diagnosis and provide appropriate treatment," the HEW report concluded. The Ontario committee endorsed HEW's findings on education and judged the chiropractor's diagnostic ability as "very limited at best."

A study conducted for the state of Wisconsin in 1972 found conditions largely unchanged. While commending the "sincerity and dedication" of both students and faculty, the Wisconsin study committee concluded that "the deficiencies are too pervasive to permit an adequate educational experience."

Since the early 1970's, chiropractic schools have actively sought to raise their educational standards. This was evident at the colleges CU visited. They still require only a "C" average for admission, but entering students must now have two years of college or the equivalent, including courses in biology and chemistry. Actually, about half of the current entrants at National College of Chiropractic in Lombard, Ill., and at Canadian Memorial College of Chiropractic in Toronto already have college degrees.

The change in the academic background of students is perhaps most dramatic at Palmer College of Chiropractic in Davenport, Iowa, which is by far the world's largest chiropractic school (Palmer trains about one-third of all chiropractors). Its January 1975 enrollment still included about 550 students whose previous education was limited to high school or an equivalency program. However, virtually all were seniors scheduled to graduate this year. The rest of Palmer's 2100 students had one or more years of college; 416 of them held college degrees.

Academic requirements for faculty members have also been upgraded. Increasingly, instructors in basic science subjects must have recognized qualifications in their disciplines, and the colleges are giving preference to candidates with graduate degrees.

Insistence on advanced qualifications tends to be most pronounced at National College. Instructors in basic sciences must generally have a graduate degree in their specialty, and the college says it will not hire a teacher with only a master's degree unless the candidate's department already includes a Ph.D. A D.C. degree is still acceptable, though, for instructors in chiropractic or clinical courses.

In short, chiropractors are no longer teaching all subjects. And the colleges have also narrowed the ratio of faculty to students. Canadian Memorial, for example, has roughly one teacher for every eight students. Instructors are still spread fairly thin at Palmer, with one per 30 students. But that's an improvement over its one-to-45 ratio of a few years ago. Library facilities have also been expanded, and National College, for one, has initiated a modest research project with a Federal agency.

DIAGNOSTIC TRAINING

Despite improvements in other areas, education in diagnosis remains a stepchild —especially in comparison to the training received by physicians. Part of the problem is historical. Traditionally, chiropractors believed it wasn't important to "name" the disease. The important thing was to find and correct the subluxation allegedly causing it. It made little difference, for example, if a liver disorder involved congestion, cirrhosis, or cancer; the object was to relieve nervous-system disturbances that were supposedly responsible for the disorder.

Accordingly, that approach placed little or no emphasis on making a *differential* diagnosis—that is, one that considers pos-

sible causes of a patient's symptoms and establishes probable as well as alternative diagnoses. While differential diagnosis is fundamental to the practice of medicine, chiropractors generally shunned it, preferring to call their approach "spinal analysis" rather than diagnosis. Even today, some practitioners insist that medical diagnosis is out of place in chiropractic.

"It is a trap for the unwary in this profession," wrote William D. Harper, D.C., president of Texas Chiropractic College, recently in The Digest of Chiropractic Economics. "We waste too much time in our curriculum on medical diagnosis."

Many chiropractic officials and educators disagree with that sentiment, however. And diagnostic training is now an integral part of the curriculum at most chiropractic colleges. Yet most of the people *teaching* diagnosis are the very same chiropractors who were trained in the 1960's and earlier, when educational standards—and attitudes toward diagnosis—were far from ideal. Those instructors, moreover, labor under a burden common to all chiropractors—the lack of inpatient hospital training.

"The medical doctor has the benefit of patient exposure that we do not have," says Andries M. Kleynhans, D.C., director of clinical sciences at National College. Because of the lack of chiropractic hospitals, chiropractors seldom see or treat diseases that the medical doctor does. That gap, Dr. Kleynhans told CU, places chiropractors at a disadvantage in their diagnostic training.

In addition, chiropractors cannot use many of the sophisticated diagnostic techniques available to the physician. This is true even for some major diagnostic aids involving the spine. A herniated spinal disk, for example, isn't visible on a simple X-ray. If it's necessary to confirm the disk protrusion, a physician may order a myelogram, an X-ray technique that involves injecting an opaque dye into the space surrounding the spinal cord. Chiropractors are neither trained to use myelograms nor permitted to do so.

Nor do they have the benefit of the more extensive education and training required of physicians. In contrast to the chiropractor's two years of college (now) and four years of professional school, the physician must have four years of college, four years of medical school, and usually three or more years of hospital residency. Moreover, the physician's subsequent affiliation with a hospital provides a center for continuing education. At the hospital, the physician's medical knowledge is reinforced and expanded through conferences, discussions, and association with colleagues, as well as through experiences with patients. Chiropractors, in comparison, generally work alone.

Clearly, the scope, quality, and length of chiropractic education cannot provide the depth of diagnostic training a physician receives. Even more fundamental, however, is the validity of what the chiropractor learns. If it's unsound, more training might only compound the error. The crucial question, therefore, is whether chiropractic theory is true or false.

THE CONFLICT WITH SCIENCE

The belief that minor interference with the spinal nerves can cause or aggravate disease is the cornerstone of chiropractic theory. It is also the focus of scientific objections. A few anatomical facts may help to explain why.

There are 26 pairs of nerves that exit from mobile segments of the spine. Those are the only part of the nervous system conceivably accessible to manipulation. Twelve pairs of cranial nerves, which exit through openings in the base of the skull and bypass the spine, are out of reach of manipulation. So, too, are five pairs exiting from the sacrum, a solid bone formed by the fusion of five vertebrae in the lower spine. The spinal cord (which is surrounded by spinal fluid as well as by protective layers of tissue) and the brain itself—with all its interconnecting nerve pathways—are likewise out of reach.

Thus, the chiropractor's action is exerted on only a limited part of the nervous system. It excludes, for example, the nerves of sight, hearing, taste, and smell, and the entire parasympathetic nervous system. The latter, along with the sympathetic nervous system, form the balancing halves of the autonomic, or "involuntary," nervous system, which serves the vital organs.

Scientists, of course, accept the importance of the nervous system in body functions. What they reject, however, is the assertion that manipulation directed at a limited part of this intricate system can prevent or cure disease.

In the first place, there's no scientific evidence that minor off-centerings of the vertebrae impinge on spinal nerves. One study in 1973, which tested fresh cadaver spines, suggested that impingement does not occur even when the spine is twisted into extreme positions or abnormal forces are applied to the vertebrae.

Secondly, if such a partial block could occur, its effect would be nil. Research by neurophysiologists shows that a nerve impulse travels more slowly in a zone of partial compression but resumes its flow immediately thereafter. The impulse transmitted is normal in all respects.

What is perhaps hardest for scientists to accept, though, is chiropractic's singular concept of the nervous system itself.

According to that view, the nervous system is the overall master of all body functions, regulating everything from major organs to intricate cellular activities. A typical statement of this concept appears in the current pamphlet, "How Chiropractic Heals," one of many such pamphlets for patients distributed by chiropractors.

"None of the body functions 'just happen'," says the pamphlet. "Your heart doesn't just happen to beat. Your lungs don't just happen to inhale and exhale. Your stomach doesn't just happen to digest your dinner. *All* doctors know that your brain and nerve system coordinate these functions which make for life instead of death, health instead of sickness."

Actually, all doctors know no such thing. The heart just *does* happen to beat. It will beat for a period of time even if removed from the body and cut off from all nerve impulses, so long as it's surrounded by a nutrient fluid. Transplanted, it is capable of sustaining life in another human being without any immediate connection to the brain or nervous tissue. The heart has an intrinsic rhythm of its own and thus can function automatically.

Similarly, the stomach digests automatically. There are *inherent* processes that govern the functions of organs as important as the heart, stomach, intestines, blood vessels, and the like. Their function doesn't depend entirely on the nervous system.

A paraplegic woman, for example, may conceive, carry her pregnancy to term, and give birth to a normal baby—despite severe injury to her spinal cord. Except for bladder and bowel problems, internal organs of a quadriplegic still continue to function, even though the spinal nerves are useless from the neck down. In short, life goes on—despite even massive "interference" with nerve impulses.

That doesn't mean the spinal nerves aren't important. But their importance doesn't render other fundamental life processes trivial.

The immunological defense system, for instance, can work independent of nerve impulses. Artificially cultured white blood cells will continue to engulf germs even though entirely divorced from nerve influence. At the cellular level, to which chiropractic claims to extend, the same autonomy has been documented. Molecular research has become so precise that it can sometimes pinpoint which portion of a molecule is responsible for a particular disease. These biochemical life processes are fundamental—and completely independent of the nervous system.

Not a single scientific study in the 80-year existence of chiropractic or the entire history of medicine shows that manipulation can affect any of these basic life processes. But a vast amount of evidence suggests it cannot.

In 1895, neither Palmer nor his contemporaries could foresee that research. In 1975, however, there's no excuse for ignoring it. Unless most medical research in the 20th century is wrong, Palmer's disease theory belongs in the pages of 19th-century history, along with bleeding, purging, and other blind alleys of medicine.

MEDICINE OF THE ABSURD

When chiropractic theory is put into practice, its efforts can sometimes border on the ludicrous. Several chiropractic pamphlets that have been used in Canada, for example, tout spinal manipulation as a cure for childhood bed-wetting. Actually, the nerves to the bladder emerge from the rigid bone of the sacrum. There is no way to manipulate them. Further, a true nerve defect would cause constant bladder problems, not just bed-wetting.

Spinal manipulation is also promoted frequently for patients with high blood pressure. A typical pamphlet obtained from the sales department at Palmer College suggests that the ailment may be treated through "proper adjustment by hand."

While the basic causes of high blood pressure in most patients are still unknown, the portion of the nervous system involved in lowering blood pressure is well identified—the parasympathetic nervous system. It is fed by the cranial and sacral nerves, and, as noted earlier, is entirely inaccessible to manipulation.

Another pamphlet from Palmer, titled "Eye Trouble," suggests that manipulation may be applicable to some eye problems. The optic nerves are completely self-contained in the skull. There is no conceivable way to reach them manually.

Other pamphlets obtained from Palmer tout manipulation for conditions ranging from acne and appendicitis to stomach trouble and tonsillitis. There isn't a shred of scientific evidence showing that those ailments respond to manipulation.

Such unproved claims have bedeviled some chiropractors for years. In an August 1974 letter, Herbert W. E. Poinsett, a Florida chiropractor, took the American Chiropractic Association to task for one of its pamphlets.

"The new ACA tract on the kidneys is a disgrace to this profession," wrote Dr. Poinsett. "The statement, 'Your doctor of chiropractic treats many kidney disorders,' is pure nonsense! I ask you, what disorders?

"Does chiropractic treat the following successfully? Neoplasms, tumors of the adrenal gland, calculi, hydronephrosis, tuberculosis, nonspecific infections. . . .

"Are you telling the people that we can treat such pathologies? If you are, then we deserve the title of quack and cultists!"

"Many within the profession, I'm sure, may agree with your comments," an ACA official replied. However, he noted, others might want to utilize the tract in their practices. "This tract, in one version or another, has been a stock item for over 40 years and has been redesigned to meet the sustained needs of the interested membership."

Most chiropractic officials interviewed by CU frankly admitted the problem of over-claiming. "We as a profession have claimed too much without valid proof," said Donald C. Sutherland, D.C., executive director of the Canadian Chiropractic Association. He indicated that the Canadian organization was actively trying to limit chiropractic's scope of practice. Neither in Canada nor the U.S., however, could CU find concrete evidence that abuses in the field were abating.

At the Sherman College of Chiropractic in Spartanburg, S.C., for example, the criteria for accepting a patient are liberal indeed. According to an editorial by Douglas Gates, a dean of the college, requirements for a "chiropractic case" are threefold: Does the patient have a spinal column? Does the patient have a nervous system? Is the patient alive?

BUILDING A PRACTICE

For some chiropractors, economics probably plays a large part in the range of illnesses treated. A limited scope of practice can often mean fewer patients. And those who confine themselves to musculoskeletal problems—sprains, strains, and back or neck ailments—tend to cut their income potential.

According to the American Chiropractic Association, U.S. chiropractors earn an average income of about $31,000 annually. Canadian practitioners average roughly the same. Often contributing to the attainment of that income are various practice-building organizations that seem to abound within the profession.

Among the oldest of such groups is the Parker Chiropractic Research Foundation, which offers a comprehensive, hard-sell approach for attracting patients and keeping them coming back. Over the last 20 years, several thousand chiropractors or their assistants have attended the Parker courses.

Parker encourages practitioners to advertise and stresses the use of a "Chiropractic Research Chart" and a "nerve" chart. The former lists numerous disorders purportedly helped by chiropractic treatment and gives the percentage of "success" for each. The nerve chart shows a picture of the spine and specifies the diseases supposedly caused by misalignments at each level.

Neither chart has any scientific validity or any acceptable evidence to support its claims. Because of such advertising, the Canadian Chiropractic Association refuses to release its mailing list to the Parker organization.

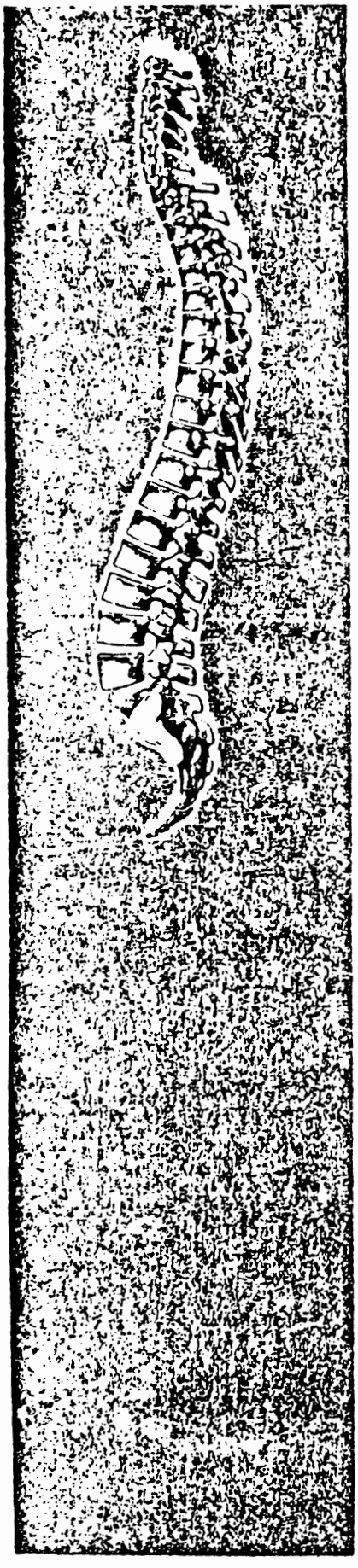
Another of the most successful practice builders is Clinic Masters, which claims a membership of about 12 per cent of all U.S. and Canadian chiropractors in active practice. According to its membership contract, a chiropractor who "desires to have the Clinic Masters System revealed to him" must agree to pay $10,000 and not "divulge or share, directly or indirectly," any portion of the system with anyone other than a Clinic Masters client.

Clinic Masters teaches a variety of specific income-building techniques and promotes the idea that higher income means greater service to patients. Some ways of providing such service include: multiple billing, which means charging for *each* spinal adjustment or other unit of treatment rather than accepting a flat office fee; a "case basis" approach, which involves charging by the case (like a surgeon) rather than by number of visits; and "intensive day care," which adds room or ward fees to the bill.

In recognition of their "service to humanity," clients earn membership ranks in one of 12 Clinic Masters clubs. The lowest is the "Leviathan" club, for those earning $4000 to $8000 a month. The highest is the "Purple & White Medallion" club, which was recently added for members earning $50,000 or more a month.

According to the major chiropractic associations, none of the billing practices mentioned above is considered "a reasonable and customary procedure" in the profession. But criticism has been stifled somewhat by Clinic Masters' threat to sue those whose remarks it judges to be libelous. It offers a $10,000 reward to anyone who is first to report and substantiate "disparaging statements about Clinic Masters" that lead to a successful lawsuit.

Despite the excesses of some practitioners and chiropractic's rejection of science, the profession nevertheless serves more than 5,000,000 patients annually in the U.S. and Canada. And many of those patients claim to be helped by chiropractic treatment. Next month, CU will discuss the reasons why people might experience such benefits and some of the hazards they face in the process.



CHIROPRACTORS
HEALERS OR QUACKS?

In last month's issue, CU explained that chiropractic is based on a mistaken 19th-century theory that conflicts with modern science. Yet many persons sincerely believe that chiropractors help them—that those practitioners are a good deal more than common quacks. This month CU discusses how patients may sometimes benefit from chiropractic treatment—and the risks they face in the process.

PART 2: HOW CHIROPRACTORS CAN HELP—OR HARM

Years ago some surgeons thought they had developed a promising cure for angina, the chest pains associated with coronary heart disease. An artery implant appeared to offer relief. The cure was short-lived, however. Subsequent research showed that a sham operation, consisting of just a superficial incision on the chest wall, was equally successful.

That experiment, like countless others, demonstrated the broad influence of the "placebo effect," a psychological reaction to a medication or procedure that results in improvement or cure of symptoms. Because of it, a sham operation may ease anginal pain or a dummy pill relieve the nausea of pregnancy.

It matters little whether the treatment is surgery, drugs, manipulation, or incantations. The key factors in the placebo effect are the patient's confidence in the healer and the healer's faith in the therapy—especially when that faith is communicated to the patient.

Throughout much of medical history, the placebo effect was frequently all any healer could offer. Indeed, a patient was often fortunate if the actual treatment was of psychological value, or even merely worthless, rather than harmful or fatal. Today, despite all the acumen and paraphernalia of modern medicine, such psychological effects are still an important factor in therapy. And they frequently account for some of the benefits obtained from the most skilled of physicians. They also explain, in part, why chiropractors can sometimes help people.

Physicians have long recognized the potent psychological effect of the "laying on of hands." Chiropractors at a National Institutes of Health (NIH) conference last February also acknowledged its role in treatment. In fact, one prominent chiropractic speaker, Dr. Scott Haldeman of Vancouver, B.C., felt that such placebo effects should be considered an advantage of manipulation.

"Clinicians who practice spinal manipulations often become very defensive when their detractors derisively state that all results can be explained on the basis of psychological effects," Dr. Haldeman said. "However, there are very few therapies that have the advantages of laying on of hands, relaxing tense muscles, causing a sensation in the area of pain, the click or pop of the adjustment, and a clinician who has complete confidence in his therapy. It is a pity that this possibility has been considered a criticism of the therapeutic procedure instead of one of its advantages."

Numerous studies show that placebo treatment in many disorders helps about one-third of patients. Temporary relief of pain or other symptoms has been demonstrated, for example, in arthritis, hay fever, headache, cough, high blood pressure, peptic ulcer, and even cancer.

The psychological aspects of many disorders also work to the healer's advantage. According to CU's interviews with specialists in internal medicine, one-third one-half of the complaints patients present in routine office visits either have obvious psychological origins or do not arise from organic disease. Hence, treatment offering some psychological benefit can often be helpful. A sympathetic ear for the patient's complaints or firm, authoritative reassurance that no serious disease is involved can prove therapeutic in itself.

One of the most important factors, suggested a physician at the NIH conference, is that patients are relieved of the responsibility of their illness and suffering when they hand that burden over to the healer. "That silent act," he asserted, "is probably . . . as important as anything else that goes on, and often many of the things that we do after that point we get by with rather than being effective with."

SELF-LIMITING ILLNESSES

Beyond psychological influences in treatment, there are also the recuperative powers of the body itself. Medical scientists estimate that about two-thirds of human illness is self-limiting. Regardless of what type of outside intervention or treatment is used, the patients eventually, get well by themselves.

"If it were more than that figure . . . I expect there'd be no need for any of us," commented Fletcher McDowell, M.D., of Cornell University, to the NIH conference participants. "If it were less than 50 per cent, we'd either all be out of work or in jail, I'm not sure which."

Even some chronic disorders, such as rheumatoid arthritis or multiple sclerosis, have spontaneous remissions. The symptoms may disappear regardless of treatment for months or more, affording temporary or, at times, long-term relief. If the patient happens to be under treatment at the time, the practitioner and the type of therapy may get credit for such relief.

Most back problems will also resolve themselves. Several studies show that about 60 per cent of patients with back pain get well within three weeks and at least 90 per cent recover within two months—regardless of the type of treatment received. Only about 2 per cent eventually undergo surgery, usually for serious bone or disk problems.

Although physicians and chiropractors emphasize different methods of treatment in common back problems, a recent study comparing both groups showed essentially no difference in the outcome of therapy. Both the physicians and the chiropractors achieved satisfactory results with more than 90 per cent of patients suffering from back or neck ailments.

Perhaps the most interesting part of the study, which was conducted by researchers at the University of Utah College of Medicine, was the reaction of patients to their respective practitioners. The chiropractic patients were significantly more satisfied with the explanations they received about their problems and the degree to which they were made to feel welcome.

Reporting their findings in The Lancet, a British medical journal, in June 1974, the authors stressed the implications of the patients' reactions:

"On the basis of our study and others, it appears that the chiropractor may be more attuned to the total needs of the patient than is his medical counterpart. The chiropractor does not seem hurried. He uses language patients can understand. He gives them sympathy, and he is patient with them. He does not take a superior attitude toward them. In summary, it is an egalitarian relationship rather than a superordinate/subordinate relationship."

Their findings, the authors concluded, "underscore the powerful potential for the doctor-patient relationship in effective treatment, whether in chiropractic or traditional medicine."

CAN MANIPULATION WORK?

Many positive responses to chiropractic treatment undoubtedly stem from the doctor-patient relationship or the self-limiting nature of various illnesses. But some favorable results can be ascribed directly to manipulation itself.

Government studies in the U.S. and Canada have judged manipulation to be a potentially useful technique for certain conditions, such as the loss of joint mobility. Research in manipulation is still meager, and controlled clinical studies are rare. But chiropractors and other practitioners who use manipulative therapy agree it can help some muscle or joint problems.

Treatment of tension headaches by massage, for example, is well recognized. Those headaches can stem from tense muscles in the neck, and proper massage may relieve the symptoms. Some practitioners also report that a stiff joint in the neck may sometimes cause headache pain that can be treated by manipulation.

In general, back or neck pain that might arise from restricted movement in a spinal joint may respond to manipulation. Such pain is usually localized in the area of the joint. However, the pain may sometimes be referred to another part of the body, such as the chest. Such referred pain may occasionally mimic the symptoms of other disorders, such as angina.

"Thus we find a perfectly reasonable basis in fact for the somewhat bizarre stories of miraculous cures by spinal manipulation," says John McM. Mennell, M.D., an authority on manipulative therapy. "Almost invariably the basis of these stories is that the patient has been told a diagnosis which he believes and remembers," writes Dr. Mennell in his book, "Back Pain." "If his symptoms are then unrelieved by orthodox treatment, but are later cured by a manipulator, it is not surprising that the patient claims to have been cured of the visceral disease." Many chiropractors and other manipulators share Dr. Mennell's view.

There are, in short, a variety of possible reasons why patients may experience benefits from chiropractic treatment. That may not be all they experience, however. The Chiropractic Study Committee for the State of Wisconsin in 1972 underscored a critical issue surrounding chiropractic:

"It is beyond question that substantial numbers of people believe themselves to have been helped by chiropractic treatment," said the committee report. "It is also beyond question that if they feel better, for whatever reason, they have, in some sense, been helped. There is, however, a balancing factor that screams to be considered. That, of course, is the potential hazard of treatment that ignores established scientific knowledge."

On the basis of CU's investigation, there are several major areas for concern.

Since many human illnesses are self-

resolving, any intervention by a practitioner should avoid exposing a patient to unnecessary risks. The maxim, as a medical aphorism puts it, is *primum non nocere*: "First of all, do no harm."

EXPOSURE TO INJURY

The American Chiropractic Association (ACA) states that spinal manipulation is "a painless and safe procedure." However, a review of chiropractic and medical literature by CU indicates that manipulation is not without hazard. The adverse effects reported range from minor sprains and soreness to serious complications and death. Serious complications included fracture, spinal disk rupture, paraplegia, and stroke. Chiropractors say that such catastrophic consequences of manipulation as stroke are relatively rare; and, indeed, CU's investigation uncovered only 12 documented cases of severe stroke from chiropractic manipulation since 1947.

However, the exact incidence of injury is virtually impossible to determine. Unlike medical reports, none of the many chiropractic surveys or journals that CU reviewed gave any statistics on complications. The only data are from isolated medical studies by a few physicians.

In an attempt to fill that gap, a study published in Clinical Orthopaedics and Related Research in 1971 reported the injuries from chiropractic manipulation recorded by one physician over a three-year period. The physician reported that 172 of the patients he examined in his practice had previously undergone chiropractic manipulation. Seven of those, or 4 per cent, had suffered direct injuries, ranging from aggravation of pain to serious nerve damage. "Injury associated with spinal manipulation," he concluded, "appears more frequent than the present North American medical literature suggests."

Therapy often involves risks. The question is whether those risks are warranted. Many surgical procedures and drugs used in medical practice are hazardous. Accordingly, physicians will weigh such risks against the proven value of treatment so that patients will not be endangered unnecessarily. While an individual physician's judgment may be faulty, the emphasis of medicine on proven therapy tends to increase the average patient's chances of genuine therapeutic benefits for the risks taken.

If spinal manipulation were a proven form of universal therapy, there would be no reason to restrict it to muscle or joint disorders, even if it involved some risk. But as CU pointed out last month, chiropractic use of manipulation in other illnesses contradicts much of the basic medical research of the 20th century. In such applications, CU concludes, *any* risk of injury is unwarranted.

HAZARDS OF DRUG ADVICE

Unlike physicians, chiropractors receive no education or training in pharmacology or drug therapy. What they learn about drugs is often self-taught. That lack of scientific background or experience in drug therapy may well contribute to what CU views as a dangerous approach to drugs by many chiropractors. Specifically, it involves undermining the use of accepted drug therapies and espousing the use of unproven ones.

Various chiropractic pamphlets for the public employ direct scare tactics against drugs. Such titles as "Drug-Caused Diseases" and "Drugs—Dangerous Whether Pushed or Prescribed" are typical. One published by the American Chiropractic Association, "Beware of Overuse of Drugs," lists scores of possible adverse reactions to such drugs as antibiotics, oral contraceptives, and medicines for high blood pressure. The pamphlet then asserts that chiropractors use no drugs, "thus avoiding drug-induced illnesses and dangerous side effects often more serious than the condition being treated." There's no mention that some of those drugs may be life-saving for patients who need them.

A common tactic is to link drug-taking with drug abuse. "Don't be a pill popper," says the headline of an ad put out by the American Chiropractic Association. "Drugging your pains and your problems is not your answer to good health." According to the ad, "drugs and medications only mask the pain and dull the symptoms of a health problem."

The consequences of such advice can be tragic. These are typical of the cases CU has come across:

- Under chiropractic care, an elderly woman with high blood pressure was advised to stop medication. Her blood pressure rose sharply, and after a month she suffered a stroke.
- A diabetic patient gave up insulin on instruction of a chiropractor. An infection held in check by good control of the diabetes with insulin then spread and caused the patient's death.
- Parents of a six-year-old epileptic girl stopped anticonvulsive therapy on the advice of a chiropractor. Until then, the child had been doing well and was seizure-free. Without the medication, she had a prolonged seizure that resulted in brain damage and subsequent mental retardation.

Chiropractic antipathy to medication, however, appears limited to *prescription* drugs—which chiropractors may not legally order. Other medications, such as vitamin preparations, are widely recommended and sold in chiropractic practice. In CU's opinion, that distinction can be a dangerous one. A substance is defined as a drug by its use, not by arbitrary categories. In medicine, a drug is any substance used as medication for a disease. Water prescribed for a dehydrated patient can be defined as a drug. Ordering vitamins for a deficiency disease is prescribing a drug.

For the patient's safety, any prescriber should have sufficient training to know when and why a specific drug is indicated. Chiropractors have no such training. In CU's view, a brief course in nutrition at a chiropractic school is no substitute for years of training in drug therapy. Yet chiropractors sometimes presume they can treat complex illnesses with vitamin pills.

An article in the March 1975 issue of The ACA Journal of Chiropractic, for example, espouses high-dose vitamins for treating schizophrenia, a complex and sometimes crippling mental illness. The author notes that "there is a great deal of controversy" surrounding such treatment, but he concludes that "the megavitamin approach is a practical alternative" for treating schizophrenia. The approach, he says, "should be considered by chiropractic as an adjunct to spinal manipulation."

Indeed, there once was "a great deal of controversy" about megavitamin therapy for schizophrenia. But that was before several carefully controlled studies showed it to have no therapeutic benefit. On the contrary, the findings suggested potentially adverse effects, including longer hospitalization, increased need for other drugs, and poorer adjustment to home and community life after patients left the hospital. Overall, the treatment was judged inferior to a placebo. Thus, the chiropractic author is recommending that a complicated mental disorder be treated with a drug less effective than a dummy pill.

THE DANGER OF DELAY

One of the worst dangers of chiropractic treatment, say its critics, is that it might divert the patient from seeking appropriate medical attention in time. The result, they contend, may have serious or even fatal consequences that might otherwise have been avoided.

Part of the problem is the confusing nature of back pain. Most patients who visit chiropractors go initially because of back troubles. But back pain can arise from a variety of conditions, from a simple sprain to heart disease. It may be muscular or skeletal in origin, or a symptom of ulcers, cancer, or disorders of the uterus or ovaries. It can also be caused by diseases of the lungs, kidneys, liver, bladder, intestines, or other organs.

When a disorder of the internal organs is suspected, many chiropractors will refer the patient to a physician. But the chiropractor's limited diagnostic training presents a major handicap to early recognition of such illnesses. And some chiropractors will continue to treat a patient regardless of any diagnosis, apparently convinced by chiropractic theory that they are relieving the true cause of the disease. Meanwhile, the illness may grow worse.

There is relatively little information available about the type or frequency of serious consequences resulting from such delays. According to American Medical Association officials, physicians are usually reluctant to report such instances for fear of lawsuits. The court cases that CU is aware of, however, show that delays in proper treatment have resulted in mental retardation, paralysis, and deaths from tuberculosis, spinal meningitis, and cancer.

In most of those cases, the victims were young children. The most bitter criticism of chiropractic that CU encountered, in fact, was from pediatric hospitals. Some of the reasons why were underscored in a report issued jointly in 1972 by the Montreal Children's Hospital and the St. Justine Hospital for Children.

The report described pamphlets distributed by chiropractors to patients in Quebec. The pamphlets claimed that chiropractors could treat epilepsy, croup, cross-eye, rheumatic fever, bronchitis, pneumonia, appendicitis, leukemia, and other illnesses affecting children. Such claims, said the report, constituted "a real and direct danger" to children. "This is especially so in that many childhood illnesses are of an acute nature and require diagnosis and treatment without delay."

For example, one pamphlet then in circulation, entitled "Chiropractic for Children," advised spinal manipulation for croup. "In actual fact," said the report of the children's hospitals, "croup is an acute infectious disease involving the voice-box area of the throat. It often requires prompt medical attention which at times may be lifesaving."

Cross-eye, too, must be treated at a very early age, or blindness will result in the affected eye, said the report.

'A FALSE IMAGE'

Parents faced with a desperate situation, such as a child with leukemia, need balanced and mature advice, the report stressed. "By calling himself a 'doctor'; by taking x-rays; by pretending to be qualified, the chiropractor creates a false image as to his ability to deal with pediatric problems. This leads directly to delay in the proper diagnosis being made and the correct therapy being started, which might affect the child for the rest of his life."

The report also decried earlier opposition of chiropractic authorities to immunization. If those principles had been accepted, said the report, "then this world would now be filled with smallpox, people paralyzed [or] dead from tetanus, children choking to death from diphtheria, the uncontrolled spread of typhoid . . . and innocent children living in iron lungs because of polio."

According to a survey conducted by the American Chiropractic Association in August 1973, about 81 per cent of its members reported that they treat children. Those chiropractors saw an average of 93 children annually, about 30 per cent of whom were of preschool age. Respiratory ailments, allergies, and nervous-system disorders were among the five most frequently treated conditions.

Each of the major chiropractic associations in the United States and Canada publishes pamphlets promoting chiropractic care for children. None of the current ones that CU reviewed makes claims about treating infectious diseases, nor do they argue against immunization of children. But the alarm expressed in 1972 by the two Canadian children's hospitals appears to us to be no less justified today.

Of particular concern, in our view, is advice published in the October 1974 issue of The ACA Journal of Chiropractic. An article titled "Pediatrics" recommends chiropractic treatment for children with infectious diseases, digestive disorders, respiratory illnesses, heart problems, genitourinary disorders, and other illnesses. "The infectious diseases usually respond well to chiropractic care," says the author, William A. Nelson, D.C., a charter member of the American Chiropractic Association. The "so-called viral diseases," he states, "follow the same general rule," with chiropractors deciding which children to refer to physicians. "We must not lose sight of the fact that . . . our therapy is preeminent in reestablishing normal physiology where such is possible."

According to Dr. Nelson, chiropractors can also evaluate heart problems in children. "If not an acute emergency," he advises, "the easiest way may well be a short period of trial treatment." The only conditions for which he stresses medical referral among children or adolescents are acute poisoning and venereal disease.

To CU's knowledge, there is only one U.S. or Canadian statute that recognizes any specific need to protect children under chiropractic treatment. That is a New York State law prohibiting chiropractors from X-raying anyone under age 18. The absence of any other safeguards represents, in CU's opinion, a tragic negligence on the part of legislators of both countries.

GRATUITOUS RADIATION

Chiropractors use X-rays to diagnose a disease process that doesn't exist. Even if it did, though, X-rays would hardly help.

Unlike bone, nerve tissue can't be seen on X-rays; nor do other fine details of soft tissues stand out. Hence, what chiropractors actually look for on X-rays are curvatures of the spine and departures from postural symmetry, however minor. Those are supposed to imply the presence of "subluxations," which allegedly disturb nerve impulses.

However, structural variations in a normal spine—and any movement or shift from a perfectly straight posture just before the X-ray—will also produce departures from symmetry. And those ordinary, inconsequential variations can look much the same as chiropractic "misalignments." Generally, the variations identified as misalignments by chiropractors are judged entirely normal by radiologists, who have much more extensive training in X-ray interpretation than chiropractors have. Thus, the chiropractor's X-ray diagnosis is twice removed from reality: It depends on unscientific appraisal of a nonexistent disease.

X-rays can, of course, show true bone abnormalities, such as a fracture or tumor. However, the 14-by-36-inch film frequently used by chiropractors for examining posture does not produce good bone detail. So, unless the chiropractor takes a smaller and more detailed view as well, abnormalities that would preclude manipulation may be missed.

Many chiropractors agree that the large film gives too little detail and too much radiation exposure. Indeed, one chiropractor quoted in the March 1975 issue of The ACA Journal of Chiropractic contended that "the doctor who takes such films just does it to impress the patient."

Critics of chiropractic concur in that sentiment and often charge that chiropractic X-rays are a promotional gimmick rather than a diagnostic aid. Some chiropractic writings lend support to that allegation. A bald example appears in the 1947 edition of "Modern X-Ray Practice and Chiropractic Spinography," by P. A. Remier, who in the mid-1960's was chairman of the X-ray department at Palmer College of Chiropractic. According to Remier, some of the reasons why chiropractors should X-ray "every case" were: "It promotes confidence. It creates interest among patients. It procures business. It attracts a better class of patients. It adds

prestige in your community. It builds a reliable reputation."

Today, such an attitude toward radiation no longer prevails at Palmer College nor at the other two chiropractic schools CU visited. In general, the X-ray departments of those colleges appeared to teach and encourage techniques for reducing radiation exposure. But such improvements fail to get to the heart of the problem. The fact is that chiropractic X-rays for detecting "subluxations" do not serve a scientifically valid purpose. In CU's opinion *all* such radiation is unwarranted.

Although current figures are not available, a 1971 survey by The Journal of Clinical Chiropractic indicates that more than 10,000,000 X-rays were being taken by U.S. and Canadian chiropractors annually. At least 2,000,000 of those were the 14-by-36-inch type, which irradiates the body from the skull to the thigh, including the lens of the eye, the thyroid gland, bone marrow, and the reproductive organs—four areas considered among the most susceptible to radiation damage. Evidence shows that exposure to large amounts of X-ray increases the likelihood of cataracts, thyroid cancer, leukemia, and reproductive-cell damage. Public-health officials are particularly concerned about the radiation dose to reproductive organs, since damage to the genetic material is a potential source of harm to future generations.

"On the average, 3 per cent of people in a medical practice are X-rayed," says the Montreal children's hospitals' report. "For the chiropractor, the figure is over 90 per cent." In addition, 14-by-36 full-trunk X-rays account for less than one in every 10,000 hospital X-rays, and the great majority of hospitals do not take full-trunk X-rays at all. In contrast, about one in five chiropractic X-rays is of this type.

According to a report prepared last May for the Canadian Association of Radiologists, chiropractic use of full-trunk X-rays is the greatest source of unnecessary gonadal radiation in Canada (especially for women, whose reproductive organs cannot be shielded from the primary X-ray beam). And chiropractic X-rays were judged second only to medical and dental X-rays as the leading sources of man-made radiation exposure in North America today. In CU's view, that is an extremely high risk to take for placebo medicine.

THE ROLE OF POLITICS

Despite the dangers of unscientific treatment, chiropractors today enjoy wider leeway in their scope of practice than any other health practitioner except the physician. By comparison, other independent health-care providers must practice within far stricter limits. A dentist doesn't treat stomach ulcers. A psychologist doesn't order medication for a heart condition. An optometrist doesn't treat epilepsy. But chiropractors may often do all three. And they are permitted to offer treatment in specialties ranging from pediatrics to psychiatry—without having scientific training in any of them. Chiropractors have won that freedom without engaging in research or demonstrating professional capability in those fields. They have won it by one method alone: political action.

For years, grass-roots politics has been the lifeblood of chiropractic. By marshaling the support of chiropractic patients, the profession has often achieved an effective political voice in legislation affecting its licensure and services. And that voice has been its protection against science. Opponents of chiropractic come to legislative hearings with information, with scientific studies, and with the official endorsements of national organizations. Chiropractors come armed with votes.

The recent inclusion of chiropractic services under Medicare, after a seven-year campaign by chiropractors and their supporters, provides a classic example. Against the combined opposition of the American Medical Association, the U.S. Department of Health, Education, and Welfare, the National Council of Senior Citizens, and numerous other groups, the chiropractic lobby emphasized one primary weapon: the mailbox. Congressional aides were reportedly astonished over the sacks of prochiropractic mail, which never seemed to diminish. It got the message across.

In its 80-year war with science, chiropractic has won the major battles. Its next goal is the inclusion of chiropractic under a national health-insurance program. In the past, the public's freedom to choose among health practitioners has been honored in legislation affecting chiropractors. CU believes that principle will be sustained if a national health-insurance bill emerges. Before such services are included, however, we think that public safety demands a searching review and thorough reform of chiropractic practices by appropriate state and Federal agencies.

RECOMMENDATIONS

Overall, CU believes that chiropractic is a significant hazard to many patients. Current licensing laws, in our opinion, lend an aura of legitimacy to unscientific practices and serve to protect the chiropractor rather than the public. In effect, those laws allow persons with limited qualifications to practice medicine under another name.

We believe the public health would be better served if state and Federal governments used their licensing powers and their power of the purse to restrict the chiropractor's scope of practice more effectively. Specifically, we think that licensing laws and Federal health-insurance programs should limit chiropractic treatment to appropriate musculoskeletal complaints and ban *all* chiropractic use of X-rays and drugs, including nutritional supplements, for the purported treatment of disease. Above all, we would urge that chiropractors be prohibited from treating children; children do not have the freedom to reject unscientific therapy that their parents may mistakenly turn to in a crisis.

If you've been considering a chiropractor for the first time, we think you'd be safer to reconsider. Even if you are dissatisfied with your physician's treatment of a back problem, you can ask for a consultation with another physician, such as an orthopedist or physiatrist (a specialist in physical medicine). Then, if manipulative treatment were indicated, it could be performed by that specialist or by a physical therapist.

Despite that recommendation, we recognize that some persons will decide to use the services of a chiropractor. For those who do, and who wish to avoid some of the dubious practices that occur, we think some advice given to CU by chiropractic officials themselves may be helpful.

- Avoid any practitioner who makes claims about cures, either orally or in advertising. Anyone who implies or promises guaranteed results from treatment should be held suspect.
- Beware of chiropractors who ask you to sign a contract for services. A written agreement is not customary practice.
- Reject anyone advertising free X-rays. Radiation should not be used as a lure.
- Ask whether the chiropractor refers patients to other health professions. If the answer is 'No'—or if the chiropractor disparages other professions or accepted treatment—walk out.
- Don't make advance payments. Most chiropractors have a flat office fee and don't offer "discounts" for prepayment. Nor is it accepted practice to charge extra for "units of treatment," such as manipulation, heat therapy, and the like. That should be included in the office fee.
- Don't be pressured by scare tactics, such as threats of "irreversible damage" if treatment isn't begun promptly. And watch out for talk about a "patch-up job" as opposed to "intensive treatment." The intensive treatment may apply to your bank account.

CU would add one more precaution: See a physician as well and find out what he or she has to say about the problem.