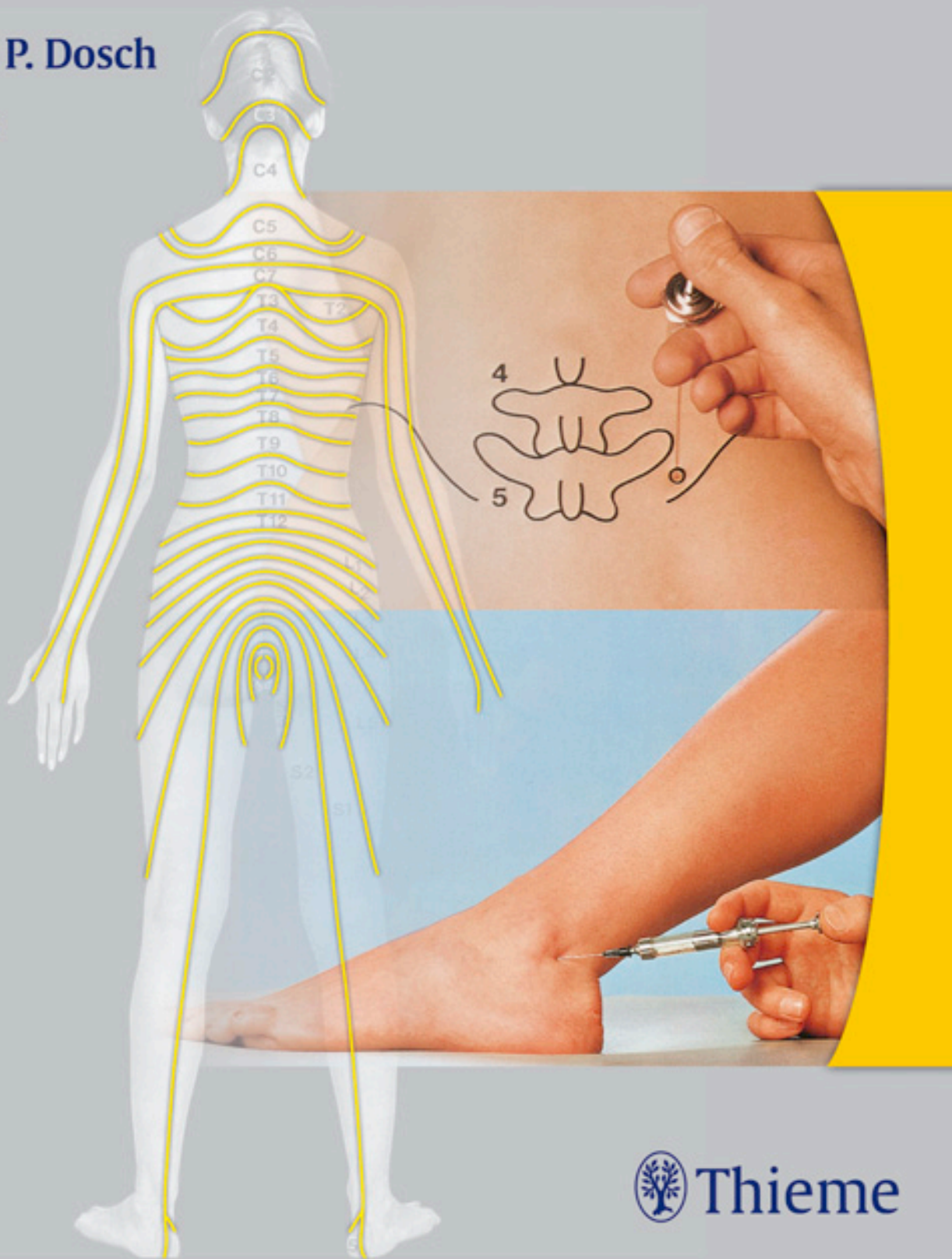
Atlas of Neural Therapy

With Local Anesthetics

Mathias P. Dosch

3rd edition



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Atlas of Neural Therapy

With Local Anesthetics

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3rd edition

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Foreword to the Second Edition

Neural therapy is not just another injection technique. It is a complex, safe, and very effective healing system for our time. The development of neural therapy has a long history. It stretches back to the discovery by Vienna's famous neurologist, Sigmund Freud, of the topical anesthetic effects of cocaine in 1883, and to the publication in Germany of the first textbook on healing anesthesia by Spiess only one year after Einhorn synthesized the first pharmaceutical local anesthetic, procaine, in his laboratory in 1905. Spiess described the technique of "trigger point injections," which some 60 years later were to change pain management in the US forever through the wonderful work and further development of this small but important aspect of neural therapy by the late Dr. Janet Travell. Dr. Travell was personally familiar with and inspired by the work of two German medical doctors, dentists, and brothers: Ferdinand and Walter Huneke.

Ferdinand Huneke is credited with being the father of modern neural therapy. He understood the importance of injecting surgical scars, following his first clinical observation in 1925 of a profound healing reaction after treating an old osteomyelitis scar in a young woman. Under the term preemptive anesthesia, his method is only now finding gradual acceptance in surgical departments, some 75 years after his initial discovery and publications. Huneke also collected and refined the original techniques for autonomic ganglion blocks with local anesthetics, nerve blocks, and the first epidural injections.

Many of the early injection techniques were first described by French physicians, amongst them the famous surgeon, Leriche. Leriche had originally developed surgical techniques for pain control, which included severing the thoracic sympathetic chain and cutting nerves in pain patients injured during WWI. As a much less invasive alternative he had developed injection techniques for each surgical procedure by 1925 and named the procaine injection the surgeon's "bloodless scalpel." Unfortunately, 75 years later surgical sympathectomies for pain control are still done in some hospitals, but have largely been replaced by nerve blocks and regional anesthesia procedures worldwide. Most of the injection techniques used today have already been published and used extensively by the early physicians at the beginning of the last century. Many of their wonderfully intelligent and helpful techniques have been recently republished and renamed under different authors' names and with different indications, most often not giving credit to Huneke, Leriche, and the real pioneers in this field. Many injection procedures had been almost forgotten, such as the Frankenhauser ganglion block, one of the most profound healing techniques for problems of the pelvic floor.

The author of this comprehensive review of all relevant techniques, Mathias Dosch, is the son of Peter Dosch, one of a handful of the original Huneke students, colleagues, friends, and mentors, who ensured the handing down of these precious healing techniques to thousands of doctors of the next generations all over the world.

Neural therapy has become a traditional European healing system focusing on the health of the autonomic nervous system. Much of the neurophysiological understanding is based on the work of the early physiologists of the last century, especially the school of the Russian genius, Pavlov. The scientific basis of neural therapy rests on a simple neurophysiological truth: injury and illness often result in long-lasting dysfunction of the autonomic nervous system. The autonomic nervous system controls and regulates or coregulates most metabolic, immunological, healing, digestive, hormonal, and many other systemic functions. It controls such diverse issues as blood flow, pancreatic enzyme and insulin production, and metabolic activity of the liver. Relatively new is the finding that the neurotransmitters produced in the ganglia and transported to the synapses of the autonomic nervous system are released in the endothelium of blood vessels and activate or inactivate specific portions of the immune system. Scars can create abnormal signals that affect the autonomic nervous system and its branches for years after an injury or a surgery. Toxicity can offset an autonomic ganglion. Unhealed emotional trauma and conflicts can reach the autonomic nervous system via the limbic hypothalamic axis and change the fine orchestration of impulses flowing in the autonomic nervous system. A simple injection of procaine into the exact location where the abnormal impulse starts can restore order in the system and lead to deep healing, often instantly! It may be an injection into a surgical scar, a ganglion, or a vein. Commonly the site injected is located far away from the location of the patient's symptom.

The neural therapy techniques comprise an entire healing system that is scientifically sound. The techniques can be learned from this book. The thinking behind neural therapy can be learned by attending hands-on workshops and by apprenticeship with an experienced physician. Good history-taking and newer biofeedback methods such as autonomic response testing (ART) and electrodermal testing (EAV) have been able to predict which scar or which ganglion should be treated.

Neural Therapy is practiced today in all European countries, Mexico, and Central and South America. In France an offshoot of this work is known under the name mesotherapy. In the US, some of these wonderful techniques have already become a well-established part of

"regional anesthesia," "nerve blocks," and other pain control procedures, with most physicians being unaware of the long history of these techniques. John Bonica, who established the first renowned multidisciplinary pain clinic in Seattle, was fully aware of the work of Ferdinand Huneke and had studied his work diligently. In his ground-breaking 2-volume textbook on the management of chronic pain, many procedures are described which he first encountered in Huneke's writing (personal communication). However, for complex academic and political reasons he chooses not to refer to the source in his writings. The traditional teaching of neural therapy in the English-speaking countries has made great progress in the last 14 years under the leadership of the American Academy of Neural Therapy. Hundreds of physicians have taken the workshops and have incorporated neural therapy safely and successfully into their practice. The Homeopathic Medical Board in the state of Nevada is the first major medical organization to have incorporated neural therapy into their statutes and to require this knowledge to be part of the material for the licensing exam.

Neural therapy is a healing technique that will often help where all other methods have failed. Often healing occurs so rapidly and unexpectedly that it is referred to as lightning reaction (or Huneke Phenomenon). It is safe, often noninvasive, and can be applied to common problems in all areas of medicine: general practice, ENT, ophthalmology, gynecology, internal medicine, pain management, pediatrics, psychiatry, and all other specialties and subspecialties. Thousands of clients have been helped already in Australia, Canada, the US, and the UK and countless patients in other countries. It is a healing system whose time has come.

Dietrich Klinghardt, M.D., Ph.D. February 2003
Bellevue, WA
www.neuraltherapy.com

Preface to the Third Edition

The textbook at hand is the result of a lifetime of experience with neural therapy. It is, so to speak, the essence that can be passed on in words and pictures. The ultimate craftsmanship depends on the individual practitioner. I was fortunate to learn from the last great master scholar of Ferdinand Huneke, my father Dr. Peter Dosch. He died in June of 2005 at the age of 90. Through his life and work, Peter Dosch made neural therapy accessible to teachers and students. It is my honorable task to continue his opus. The need for a third English edition of the *Atlas of Neural Therapy with Local Anesthetics*, which will contain extracts of the *Manual of Neural Therapy According to Huneke* by Dr. Peter Dosch and myself, proves the fact that neural therapy is now completely established internationally. Today, minds are open to a therapy that my father had to fight for, and neural therapy has found its place as a complement to classic orthodox medicine.

Mathias P. Dosch, M.D.

Preface to the 14th German Edition of the "Manual of Neural Therapy According to Huneke" by Peter Dosch

The physician has but a single task:
to cure; and if he succeeds,
it matters not a whit
by what means he has succeeded!
–Hippocrates (fl. ca. 400 BC)

Technical development has brought not only blessings and progress to mankind. The spirits that humankind has invoked are now beginning to threaten its own existence. Centralization and increasing mechanization in medicine have led to overspecialization and to soulless robot medicine. This has reduced the doctor–patient relationship to something that concerns itself with purely somatic aspects. The demand for a more psychosomatically oriented approach to medicine concerned with the human organism as a whole has remained largely unheard and unanswered. Merely talking about such a longed-for goal does not mean that it has, in fact, been attained, the less so as long as the ultimate objective is merely to classify illness by accurate diagnosis whilst an effective therapy is lacking. No wonder, therefore, that the personalities of doctor and patient have retreated ever further into the background. That childlike trust in the doctor, which saw in him or her something of an omnipotent parent figure, has been replaced almost totally by a mere service relationship, albeit still on a "professional" basis. And illness, from being regarded as an affliction willed by God, has changed into being seen purely as a malfunction due to chemical and mechanical factors.

Today's patient comes to us programmed differently from the way he or she was in the past. Health has become a consumer product. The patient and their health insurance pay, in exchange for which health is to be supplied in the form of repairs without any personal contribution on the patient's part. To the patient, the physician has become a mere technician with whom he or she enters into a contract, by which the doctor is only required to locate the defect and eliminate it with the aid of physics and chemistry. After all, isn't that what they are paid for?

The hospital has been industrialized. It no longer sees patients as individuals, but concentrates ever more on their illness as the basis for statistically significant diagnostic groups. It takes from them whatever it finds to be of use for its own purposes. Patients are depersonalized. They are made to submit to all the various procedures, generally without ever discovering why and with what results. The findings, rather than their condition, are at the center of clinical interest. It is not the patient's interests but those of the people of science that have to be satisfied. In this way, all too often, patients find themselves caught up in the wheels of an anonymous, pseudo-scientific machine and its attendant bureaucracy. At the same time, their treatment is almost exclusively based on symptoms, organ, and laboratory findings, but hardly ever deals with causes. However, the term "natural science" can in practice be justified only if such a science does not exclude the nature of the human being, since it is ultimately supposed to be serving humanity!

Whenever the citizen of today becomes aware of an unsatisfactory situation, he or she tends to call on the state to intervene. But, in this case, the state is equally helpless, for it is above all else the state itself that is interested in the scientist only in terms of his or her productivity. The general practitioner and family doctor, in the eyes of the state, are merely by-products of badly planned medical training, which, as it were, continues to produce these models despite the fact that there is no longer any market demand for them. That this formulation is not exaggerated is shown by the selection procedure for medical students. Admission is restricted to those who can prove by their examination results that they can learn facts, figures, and scientific principles. In this way, they are then able to provide the requisite guarantees that they will later be fully competent to recognize in a perfectly disciplined manner that which is scientifically and technologically feasible.

But this does not offer any guarantee that anyone with good university-entrance examination results will also bring with him or her the personality that is essential for being a physician, a capacity for easy human contacts, and empathy, to name but a couple. In addition, today there is little relation between medical training and medical practice. The "doctoring" aspects are relegated to second place and there is little attempt made to develop the ability of thinking and acting as a doctor. As a result, the patient often finds that he or she is in the hands of pure technicians who are more or less conversant with the diagnostic machinery under their control and who are more interested in a diagnosis capable of objective proof rather than in the person and fate of the patient him or herself.

All that I have stated here should not, however, be interpreted to suggest that there are not many good doctors, in our sense of the word, amongst these scientists and clinicians. But these have become good doctors not as a result of their training but despite the principles that are regarded as solely valid in this kind of education. The cult of anything that can be supported by objective proof has obscured the fact that the living organism must be seen as a complete and indivisible entity and has precipitated medicine into a crisis. This has, in fact, been recog-

nized, but no way out has yet been found because we are not prepared to abandon the schematic framework that we have come to regard as immutable.

It is not our intention in any way to deny that there has been progress in medicine or to suggest that technology in medicine is a creation of the devil. But we ought to make certain that progress does not in the end come to threaten our existence and that technology does not turn into technocracy. We want to help in trying to contain the excessively mechanistic ways of thinking and acting, in order to provide more room for a less harmful form of therapy that takes the regulating mechanisms and the body's own healing powers more into account. Exact logic, science, and the ivory-tower ideas of the specialist on the one hand; the art of healing, intuition, and thinking rather more in cybernetic terms on the other: these are the two opposing poles between which medical judgment seems to be moving today. But in the interests of the patient, whom we are called to serve, neither should exclude the other. Both are necessary, each the complement of the other, and should be used intelligently. The exact sciences have drawn frontiers in places where, for many sufferers from illness, it would have been better to build bridges. We regard it not as illegal, but rather as medically essential, to cross these frontiers wherever this may be necessary for the sake of our patients. Our duty is to help them, and to carry this out we need to expand the natural sciences, concerned as they are with mathematical logic, by another, more empirical form of science. For if we fail to do so, human medicine will become ever more inhuman and more sterile.

In this time of crisis, modern cybernetics forms a bridge between the sciences and has also begun to conquer medicine. Cybernetics, with the theory of interlinked and interacting control circuits, is able to make for a better understanding of Huneke's therapy and to help this method to its final breakthrough. For it has now become obvious that the Huneke brothers have discovered cybernetic laws of tremendous importance for the future of medicine. Neural therapists are already using these discoveries today!

The attentive reader of this book will recognize that neural therapy, acting as it does upon the cybernetic energy cycle, forms an intelligent alternative to impersonal, formalized medicine as it exists in our day. We do not want to replace this medicine, but we can complement it and make it more effective.

Meanwhile, neural therapy according to Huneke has set out on its worldwide conquest of medicine. It began in the surgery of two general practitioners. Now, general practitioners and specialists from every medical discipline are using it to an ever-increasing extent in their day-to-day treatment of patients. Nevertheless, outside Germany, the Huneke phenomenon is still little known as a positive therapeutic objective, and even in Germany the odor of magic and quackery still tends to be attached to it in the minds of the ignorant. It is surely remarkable that medicine, which is usually generous enough in naming names, has been so reluctant to attach the name of their discoverers and defenders to these teachings and often enough turns its back upon them, despite the fact that what they discovered is surely one of the greatest and most beneficial achievements in medicine of the last 50 years. Nevertheless, segmental therapy is now widely accepted as an integral part of orthodox medicine and forms an important part of neural therapy as such.

Yet the lightning reaction according to Huneke is still regarded as controversial. This is not altogether surprising if one bears in mind that the thought processes that it demands are enough to shake the foundations of medicine as built up over the centuries. Yet the lightning reaction is a fact and can be produced by anyone. It has taught us to heal in the true sense of the word, where we had previously been at the end of all our supposed wisdom that we have carried about with us since our days at medical school. This is why the discoveries based on this reality can no longer be talked out of existence. And if they no longer fit into the old scheme of things, then it must be high time to alter the scheme of things!

Time has been working in favor of neural therapy according to Huneke. The Viennese professors and their helpers have provided proof that the observations made by the two Hunekes were not a form of self-deception practiced by a pair of monomaniacs. They discovered by empirical methods the effects produced by procaine. These can now be proved by scientific methods. The reality of the lightning reaction has been scientifically proved and ought no longer to remain the controversial privilege of a handful of fanatics and outsiders. These developments show that the Huneke method has now become a matter of interest to some who would not previously regard it as fit for discussion or who adopted a wait-and-see attitude toward it. From outright rejection, we have reached a point where genuine interest is being shown. We, who were among the early partisans of the Huneke brothers, are happy to know that many are now beginning to recognize that what we pursued was not a will-o'-the-wisp, but that what we have done is to prevent such a logical and successful method from being forgotten and dying with its discoverers. We shall therefore persevere in our efforts to dismantle any prejudice and misconceptions that may still continue to exist.

But the term "neural therapy" is not intended to suggest that we claim exclusive rights to the nervous system. No surgical, physical, psychotherapeutic, or other form of treatment can afford to leave the nervous system out of account. This term is thus intended simply to bear witness to the fact that by contrast with humoral, organic, or cellular therapy we have adopted a different point of view and are trying to see all the vital processes, including those of illness and cure, as being primarily conditioned by the nervous system. Not in isolation, but in a cybernetic and holistic sense. The term "neural therapy"

has become familiar enough over the last 50 years. Nowadays, we should in a way prefer to see it replaced by the more accurate description "regulating therapy." But more important than the name is the fact that the successful results obtained prove us right to such an extent that we are bound to acknowledge that the road pointed out by the Huneke brothers is right.

Neural therapy is a modern, safe method with a good chance of producing an improvement or cure. If we apply the principle of using the least force commensurate with achieving the best result, it must be the method of our choice in the day-to-day work of general medical practice. But we also know the limitations of our therapy. We know that it is not a method that can be used to cure everything, nor can we ever deny any other successful method its right to exist. Particularly in medicine, the only criterion for judging any method should be whether it is successful: whatever and whoever is able to cure the sick is right!

Orthodox medicine is divided into a number of traditional specialties related to specific organs: eyes, ear–nose–throat, gynecology, orthopedics, etc. Internal medicine itself has a large number of organ-specific subdivisions: heart, lungs, stomach, kidneys, blood, etc. But the patient who walks into the general practitioner's surgery is a whole patient, consisting of an organic entity comprising body and soul, who complains of ills that can but rarely be coerced into the straitjacket of a scheme of things concerned only with separate organs. For this reason, general practitioners have not been able to let their view of this whole being become obscured, and this is why they are delighted to use neural therapy because it is a genuinely holistic therapy. It has given back to them their responsibility for almost every one of the specialist areas in medicine, it has released them from the "crisis in medicine" and from all that is therapeutic nihilism. It enables them to make use of the neurovegetative system for cures right across the whole spectrum of medicine and frees them from the depressing task of merely acting as signposts to the nearest specialist or clinic dealing with this or that specific organ.

Despite every form of resistance to it, its successes have enabled this method discovered by the Huneke brothers to remain alive after more than 50 years. Why it did not prevail more quickly is easy to explain. Procaine has been with us since as long ago as 1905 and a large amount of literature has been published about it during this period. For the research scientist there seems to be no more grass left in this particular meadow. There are many problems of more current interest that promise them greater personal renown. The pharmaceutical industry does not exist to serve the doctors but only to pursue its own lucrative aims. The doctor merely acts as intermediary for its products on their way to the end user, and he or she is thus its guarantee of profitability. It is therefore continually developing new specialties that can be sold profitably to patients by means of brisk publicity amongst members of the medical profession. It is therefore not interested in propaganda for so cheap a preparation with so broad a spectrum of indications. Procaine and lidocaine are available everywhere, even in the primeval forests of South America. If they were to be used not only for local anesthetics but also for a wide range of therapeutic purposes, this would have a substantial impact on the sale of profitable pharmaceutical preparations. It is therefore easy to conclude from this why and by whom the fight against a wider use of the Huneke therapy is being conducted with so much determination, and it is all the more to its credit that it has succeeded to so great an extent in becoming accepted, despite its total lack of financial backing.

The clinician is fully and profitably occupied in testing the latest preparations produced by the pharmaceutical industry. He or she feels obliged at all times to adapt his or her treatment to the "latest state of scientific knowledge." Those who occupy university chairs and those who work in the editorial departments of the specialist press are subject to the same pressures. General practitioners, however, can seek their therapy in reasonable independence from the flood of publicity and the currents of fashion. They ought also to have the courage and the liberty to free themselves from dogmas and seek new ways responsibly, sensibly, and with love for their fellow human beings, and gather fresh experience when the well-trodden paths fail to lead them to their goal. Many roads lead to Rome. Similarly, there are many ways of helping nature to help itself. More than this lies beyond the power of any doctor. This is how, for many of them, procaine therapy has become a fixed component of their diagnostic and therapeutic armory. The general practitioners do not talk a great deal about it, nor do the research scientists or the clinicians want to say more about it than they can help.

It has become a habit simply to talk about "neural therapy" when procaine or some other local anesthetic is used in treatment. The collective term "neural therapy" has been taken up uncritically by so many branches of medicine and the pharmaceutical industry that we attach great importance to the additional definition "according to Huneke," whenever we mean the selective, carefully pinpointed, specific treatment with local anesthetics. This is why K. R. von Roques originally coined the term "neural therapy according to Huneke." Even if far from perfect, it is now well established and there is no reason to consider changing it. We occasionally hear the objection that similar individual observations of the healing effects of local anesthetics were in fact made by others (Schleich, Spiess, Leriche) before the Huneke brothers. But the recognition of the biological laws involved and the far-reaching therapeutic importance of the action of procaine were and remain the intellectual property of the two brothers. They built their years of experience into a complete method and fought against considerable resistance for its recognition.

Following the Huneke brothers, a number of doctors have gained recognition for their work in providing a theoretical basis and a scientific foundation for the principles underlying this new form of therapy. But this does not entitle them to claim the right to propagate the method of the Huneke brothers practically unchanged under different names of their own invention, such as "therapeutic local anesthesia," "neurotopic therapy and diagnosis," "selective neuro-regulating sympathetic-system therapy," "regional pain therapy," and other such neologisms!

There cannot be many doctors who have not heard something of the successful cures achieved by neural therapy, some of which border on the miraculous, and who have not also tried it out for themselves, though generally without the expected success. Not everyone who injects procaine, Scandicaine, Xylocaine, Xyloneural, or any one of the mass of combined preparations covered by the comprehensive designation of neural-therapeutic products is, by virtue of that fact, practicing neural therapy! Neural-therapeutic preparations are, in reality, extremely demanding and can develop their remarkable effectiveness only if they are given in the right place for the specific patient who is being treated. The localization of the injection is crucial for success or failure. No two human beings are identical and there are therefore no two identical disorders. This is why the decisive point for the injection in 10 patients with the same diagnosis can be in 10 different places. Simple as it may seem at first sight, it is not as simple as saying: "From now on, simply take some procaine and cure practically anything, since in any case in some way or other everything goes via the nervous system!"

This book has been written in order to give the busy doctor of today the possibility of using this new experience and knowledge without first of all having to wade through and digest some 10 000 publications on this subject. It is intended to be no more than a guide to the theory and practice of neural therapy. It has been designed as a work of reference and is in three parts, to enable interested practitioners to orient themselves with a minimum of effort and to discover new suggestions whenever they use it in their day-to-day practice. For the sake of clarity, I have refrained from quoting too many case histories, from giving every name and from providing a complete bibliography. The three parts of the book are:

1. Theory and Practice of Neural Therapy According to Huneke.
2. Encyclopedia of Neural Therapy. The alphabetical list of indications is an extract from the enormous amount of literature on carefully localized therapy with products containing procaine or lidocaine, based mainly on segmental therapy. Practical suggestions take precedence over theoretical considerations. On the other hand, principles regarded as important are intentionally repeated, some of them more than once. This section dealing with indications makes no claim to completeness. But from what is stated in this part of the book, it will generally be possible to decide on the procedure to adopt for other disorders presenting in similar locations to those quoted.
   It is essential to emphasize again and again that segmental therapy has its limitations and that the lightning reaction forms the coveted summit of the diagnostic and therapeutic potential available to us. This is simply because it is the only possible way to cure a large number of hitherto therapy-resistant disorders caused by interference fields, because it is the only method that can cure them at their origin.
3. The Techniques of Neural Therapy. The suggested techniques have been grouped alphabetically and are in a section by themselves. This is done for practical reasons, in order to make it possible to locate the required information quickly. Techniques are described in considerable detail, and the sketches and illustrations are intended to make it easier to commit to memory the information provided.

My son, Mathias Dosch, has produced an illustrated *Atlas of Neural Therapy with Local Anesthetics*, also published by Thieme. This atlas is designed as a complement to this manual.

There would have been no neural therapy according to Huneke if fate had not placed these new discoveries in the hands of two brothers with very different personalities that perfectly complemented each other. Ferdinand, the dynamic fighter, who went imperturbably on his way despite all the forces arrayed against him, and who, time after time, drummed the new teaching with penetrating eloquence into the heads and hearts of his readers and his listeners. He was supported by Walter, the prudently deliberate, more profound; a complete scientist who remained more in the background and who provided the theoretical foundations for their observations, thus helping his brother to forge the weapons for their battles against a world full of opponents. Neither could have existed and prevailed without the other.

Ferdinand Huneke died of a pulmonary infarct on 2 June 1966, at the age of 74. His death bereft us of one of the very great physicians of our time. His life was a hard struggle, and almost the only recognition that he was to receive was the love, affection, and admiration of his disciples, whose faithfulness to him was to outlast his life. Ferdinand Huneke was a fascinating personality. As a passionate doctor he was so imbued with the tightness of his ideas that any resistance would rouse him to truly Teutonic fury. Much to the distress of those who supported him, he would often reply too directly, with too little tact, too noisily and heatedly to the numerous personal and often malicious attacks made on him. Thus, he made more enemies than was good for his cause. Many of his opponents made the mistake of identifying the inconvenient personage with his cause. But there were also a number of notable clinicians who learned to induce Huneke's

lightning reaction, amongst them Ferdinand Hoff, who recognized his discovery for what it was without necessarily also adopting Huneke's philosophical views and conclusions as his own.

For patient and doctor the cure is the decisive element, whilst its interpretation must be left to the people of science. If science takes offense at the person of Huneke and at the packaging of his ideas, it ought not on that account refuse to accept the contents of the package. For we owe a genuine step forward to Huneke's gift of observation: "The ability simply of looking and thinking about what one has seen is what has characterized Hippocrates and other great physicians. In great fundamental questions it takes us further than many brilliant inventions in the form of refined technical aids or a vast lumber of knowledge" (Bier). As practicing doctors, we rarely have the skill to formulate our ideas as clearly and with the same precision as that possessed by many a fluent clinician practiced in discussion and debate. But a certain roughness of expression ought not to be any reason for avoiding all discussion with us. After all, we all serve the same aims, and with our observations of the reactions of the living organism to our injections, we complement animal experiments and research in the dead regions of science.

Walter Huneke died on 4 March 1974 at the age of 76. The recognition that the two brothers deserved was denied them both. The story of their neural therapy is a sorry chapter in the history of medicine. They stand with others like Semmelweiss, Spiess, and Schleich, all pioneers whose recognition was long delayed. Today everyone knows that they were right and that the "experts" who set themselves up in judgment over them and condemned them were wrong. We shall therefore continue the fight to put an end to the injustice done to the Huneke brothers and obtain for them, if only posthumously, the recognition they deserve. This book will help to ensure that their discoveries will remain alive.

I therefore dedicate this textbook to my venerated friends and teachers Ferdinand and Walter Huneke. It is due to them that the whole of my medical ideas and actions have acquired a new meaning. Without the art of healing that they taught me, and which I pass on to others out of my gratitude to them, I should no longer wish to be a doctor.

Von Hering prophesied in 1925: "The intelligent use of the autonomic system will one day become the most important part of the art of healing." The Huneke brothers have shown us an excellent way of using it wisely. In the interest of our patients, this is the way we have to choose. Any neural therapist proficient in his or her art will be superior to the best clinic equipped with the costliest and most complex diagnostic apparatus, particularly in the roughly 30% of all disorders which, in our experience, are caused by an interference field! Since localization and the correct technique are the essential prerequisites for success, may this book of mine offer counsel and suggestions to the ever-widening circle of doctors who are turning to neural therapy according to Huneke, that they may so perfect themselves that, from being "also procaine injectionists" they may become successful neural therapists in the sense of the Huneke brothers.

Peter Dosch, MD

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1 Introduction

For many years, neural therapy according to Huneke was unjustly forced into an outsider's role as a fringe method in medicine. Now, more than fifty years after its discovery, the recognition is at last growing among medical practitioners at universities and hospitals that the selective use of local anesthetics can greatly enrich and expand the conventional therapeutic armory, since physicians such as Adler, P Dosch, Gross, Harrer, Kibler, Schoeler, Siegen, and the Viennese team of Bergsmann, Fleischhacker, Hopfer, Kellner, Pischinger, Stacher, and others have shown by their work that the effects of neural therapy can be proved objectively.

For years, more than 50% of all established practitioners in West Germany have been using neural therapy successfully in their day-to-day practice, for both diagnostic and therapeutic purposes.

In 1928, the brothers Ferdinand and Walter Huneke published a joint paper on 'Unfamiliar remote effects of local anesthetics' (Unbekannte Fernwirkungen der Lokalanästhesie). They reported the successful treatment of painful conditions in segmental areas and drew attention to the importance of injecting the correct site. They soon recognized that when procaine is injected, previously unknown reflex-like reactions are produced via Head's zones. In addition to the purely intravenous injections with which they had begun, they discovered that paravenous and intramuscular injections could also be effective. For this type of treatment Kibler suggested the name of 'segmental therapy with local anesthetics.'

Preparations, Material, and Dosages

Skin Disinfection[1]

We still learn more from life
than from our teachers.
–E. von Bergmann

Let me season what follows with an anecdote from my personal experience, to make what I have to say more palatable. As we know, even medicine is subject to fashions. At the start of the sulfonamide era, many a disciple of Aesculapius hastened to prove in well-founded scientific treatises that Prontosil worked genuine miracle cures in almost any internal and medical surgical disorders. Only a handful of doctors remained objective and adopted a wait-and-see attitude. Then it was Prontosil, yesterday it was penicillin, today it is corticosteroids, and tomorrow something else will be hailed as the wonder drug. I have no objection to progress. But the enthusiasm with which medicine greets each little step forward, with excessive praise and exaggerated expectations, and then has to backtrack, does tend to become just a little embarrassing after a while.

As a young student I had the good fortune of being allowed to watch Kulenkampff at Zwickau during an operation. In the middle of it, the master pulled off his gloves, threw them on the floor and went with bare hands into the abdominal cavity, so that he might be better able to feel something or other in there. I was speechless with surprise and my aseptic conscience was appalled. "Anything the matter with you?" he growled at me, when I finally and audibly caught my breath again. My carefully phrased objection received the grumbling reply: "My young friend, remember that you can defecate (though he used a shorter and more profane term) into the abdominal cavity, you may spit into the thoracic cavity without fear of retribution, but you must not even peep into the knee joint!"

As he was suturing the incision, I asked him whether he did not want to pour 50 mL of Prontosil solution into the abdominal cavity, as I had seen done elsewhere. His laughing reply was, at that time, something of a heresy, but today it seems wise: "No, why should I want to cover damaged and injured tissue with red dye as well?"

This experience came to mind in 1951, when I was able for the first time to watch F. Huneke in his practice in Duesseldorf, trying to steal with my eyes as much as I could for my own practice. I experienced the same slight shock when I found that he never disinfected the patient's skin before giving his numerous injections. His followers have adopted his approach. Millions of injections have shown that infections and injection abscesses hardly ever result. A survey produced only eight reports of infections in 35 000 000 injections. In some of these the cause lay in a therapy using corticosteroids or high-dosage regulation-blocking agents, which had substantially reduced the body's defensive capabilities. In others we regard the resulting abscess as exacerbation of an old sealed-off infection and as a healing reaction.

How does this come about? Is this to be interpreted to suggest that aseptic procedures are to be declared superfluous? There is no question of that, and for the benefit of critics who are not well-disposed to neural therapy let me emphasize that our syringes and needles

[1] Taken over from Dosch P, Dosch M. Manual of Neural Therapy According to Huneke. Stuttgart–New York: Thieme Publishers; 2007.

must, of course, be sterile. Our experience with procaine has simply taught us to regard infection, and toxic and allergic reactions, from a new viewpoint. We explain the fact that even after injections under the scalp and into the oral mucosa no infection occurs, first of all by suggesting that the chemical and mechanical irritation produced by disinfecting the skin is perfectly capable of stirring the bacteria from a state of rest and making them virulent.

And then, of course, we are injecting procaine. As long ago as 1906, Spiess noted that anesthesia suppresses any inflammation. We see danger not in the pathogenic agents but in the nerve irritation (depolarization) they cause. But we can reverse this with our anesthetic preparations, using them to stop bacterial and virus attack and proliferation, and thus preventing infection. If we infiltrate procaine around a fresh snakebite, the venom can no longer act on the organism. This is explained first by the fact that the anesthetic breaks the conductivity of the nerve fibers. Thus, the nerves can no longer conduct the irritative stimuli to the nerve centers. But further, procaine is also capable of recharging the cell membranes damaged by the irritation and of restoring their normal electrical potential. By this means, the production of toxic stimuli is blocked, which would otherwise cause the center to respond with panicky, excessive, and therefore dangerous reactions. In tetanus, rabies, poliomyelitis, and many other diseases, we need to imagine similar processes taking place, reminding us of the interference-field theory and of the possibility available to us of eliminating the pathogenic nerve irritation with procaine. The picture is rounded out if in this connection we remember that serum sickness can be stopped by anesthetizing the serum injection site (Muschaweck).

Far more important than all theory, however, is the fact that, whether we like it or not, that is the way it is. Obviously, no one can be prevented from continuing to carry out the traditional, ritual acts of ablution and of disinfecting the patient's skin before injecting procaine. In certain circumstances, as, for example, before deep injections in the perineal region and near the anus, we also disinfect first. Similarly, for injections into the joints and the subarachnoid space and ventricles, the same sort of asepsis and antiseptic precautions must govern our actions as for major surgery! The same applies to seriously ill patients before parenteral treatment and to patients who are treated with high doses of corticosteroids. As has been stated, in return we need have no misgivings about being somewhat less punctilious in all other cases.

T. C. Dann, in an article published in the *Lancet*, took the view that the standard few seconds' routine skin disinfection before an injection is totally useless. At best, no more than ~80% of all bacteria are killed thereby. He and his colleagues had been giving injections for 6 years without prior disinfection, without ever finding any harmful side-effects result. They disinfected the skin only in above-mentioned exceptional cases. But in all such cases the skin is thoroughly cleansed for at least 2 (preferably 5) minutes with iodine, alcohol, or hexachlorophene. In 1978, Felig, in the *Lancet*, went so far as to describe the business of disinfecting the skin before injections as an "unnecessary ritual act." In diabetics, where the risk of infection is substantially greater, 1700 injections were given without any prior disinfection of the skin around the injection site; not a single case of local or general infection resulted.

Procaine (Novocaine), "King of Medicines"[2]

My hobby?
Impletol, of course!
–F. Huneke to a reporter

Novocaine is the registered trade name owned by Hoechst Pharmaceuticals for the p-amino-benzoyl diethyl-aminoethanol hydrochloride discovered in 1905 by Einhorn. Its generic name is procaine. In earlier German and Soviet literature we generally find the name of Novocaine used, while British and American authors refer to procaine, the French to scurocaine.

Procaine is thus an alcohol ester of p-aminobenzoic acid (PAB). It is hydrolytically broken down and thus detoxified via a serum enzyme, plasmacholinesterase, which occurs everywhere in the body tissues. This process takes from 20 to 40 minutes and produces two antihistamine components of interest: PAB and diethyl-aminoethanol. In the process of being broken down it is metabolized so thoroughly that only a small part (~30%) of it needs to be detoxified in the liver and only 2% is eliminated unchanged via the kidneys. For this reason alone it is to be preferred for therapeutic purposes to a large number of more recent neural-therapeutic products based on an amide structure, such as Xylocaine, Scandicaine, Hostacaine etc., which need to be almost completely detoxified in the liver! Liver disease can lead to a reduction of the serum cholinesterase, because of which procaine will be metabolized more slowly. Other products such as butazolidine, chloramphenicol, and sulfonamides can delay detoxification. At this point, reference should also be made to the very rare congenital cholinesterase deficiency, which renders the patient incapable of metabolizing procaine.

Apart from the neural-therapeutic action developed by the intact procaine molecule in pathologically changed tissue, there is also the effect of its breakdown products. PAB (vitamin HI) is regarded as one of the organism's enzyme-building blocks. It acts as an intermediate stage

[2] Taken over from Dosch P, Dosch M. Manual of Neural Therapy According to Huneke. Stuttgart–New York: Thieme Publishers; 2007.

in the formation of folic acid and of the citrovorum factor, which transmits the carbon-1 fragments in intermediate metabolism. PAB is probably also the main active agent against pathological sclerosing and hardening of the tissues. Diethyl-aminoethanol is a vasodilator substance that acts on the circulation and lowers blood pressure. Its spasmolytic effect on tonically constricted vessels and its influence on the neurovegetative state in sympathetic and parasympathetic irritation has been proved. In addition, a mildly stimulant effect on the central nervous system and psyche is also ascribed to it. It stimulates hair growth and sometimes restores youthful color to gray hair.

Procaine blocks cholinesterase, inhibits the formation of acetylcholine and the sensitivity to stimuli of the peripheral choline receptors. It suppresses histamine formation. As a β-receptor blocker it eliminates the physiological and pathological reactions caused by stress and sympathicomimetics. It lowers the level of catecholamines in the blood (epinephrine, norepinephrine, dopamine).

For procaine and the other anesthetics, several specific pharmacological effects have been proved, all of which are desirable from our point of view. According to these studies:

1. It acts to restore neurovegetative equilibrium, i.e., it can act either as a stimulant, increasing tonicity, or as a relaxant to reduce tonicity, depending on the patient's initial state.
2. It acts to relieve pain. Here, in addition to its central and peripheral analgesic effect, there is also an antipyretic, anti-allergic, and spasmolytic element. As the pain disappears, the reactive inflammation also vanishes. By eliminating pain receptors the pain threshold is raised. When the injections are placed correctly, this effect lasts longer than the anesthetic effect, which indicates a decrease of pathogenic feedback. This suggests that the repolarization of the cell membrane during the anesthesia-hyperpolarization, with subsequent membrane stabilization, has a positive effect on the regulation mechanisms.
3. Its effect on the nervous system is made up of its ability to act simultaneously on the peripheral, the autonomic, and on the central nervous systems. It alters the functional state of the nervous system by reducing its lability, thus making it less sensitive to harmful stimuli. It is thus in a position to eliminate the state of shock of different origins and degrees of severity. If used correctly locally, it blocks pathogenic reflexes and reactivates the previously blocked neurovegetative system with its spontaneous healing capability.
4. It develops a therapeutic effect on all three components of the blood supply, i.e., the heart, the vascu-lar system, and the blood. It has a regulating effect on the blood supply, is anti-allergic and a vasodilator, and reduces the permeability of the vascular walls:
   a. Around the heart it inhibits the stimulus formation and conduction, and acts anti-arrhythmically. It has an oxygen-conserving effect on the heart muscle.
   b. Microcirculation improves with the opening of arteriovenous anastomoses. Edema can drain and inflammations improve. In animal testing, edema was prevented when paws were treated with procaine before compressing them.
   c. Animal testing proved the antihistamine effects of procaine, particularly by affecting the acute serum shock and suppression of the Shwartzman reaction. The stimulation of sensitive fibers causes histamine secretion, which stimulates more receptors. The antidromic reflex causes further histamine secretion. This lasts for a short while because the secretion is limited. Initially, sympathicus stimulation causes a spasm of the arterioles, which turns into pathological vasodilation with edema formation, vascular bleeding, intense pain with limited mobility, and muscle dysfunction. The sealing effect of procaine on the capillary walls begins quickly, reaches its peak after 1 hour, and lasts for up to 4 hours. In animal testing using procaine, the Bezold-Jarisch reflex of the induced collapse (loss of blood pressure, slowing down of pulse and respiration) can be prevented.
5. It also acts on the smooth musculature. So, for example, it sensitizes the uterus with regard to the hormone of the posterior lobe of the pituitary.
6. It has a substantial influence on the formation and secretion of hormones and enzymes.
7. It stimulates diuresis.
8. According to Uri, it also acts "directly on those parts of the brain which are associated with the transformation of stimuli into sensations."
9. It regularly and quite noticeably improves the patient's general condition. This means that a whole series of interrelated and interactive functions and regulating systems are reactivated, of which, however, we are able to find only a limited amount of objective evidence. The altering and balancing effects on the autonomic system and the regulation of sensitivity and trophism seem to produce positive results that include the psychological condition. Since the performance of organs and tissues is dependent on the blood supply and thus on the supply of oxygen and nourishment, and on the removal of the waste products resulting from metabolic processes, there is an increase in performance either directly locally at the treatment site or indirectly by the elimination of interference fields. This is enough to explain a large number of successful cures. It has also been proved that procaine has an oxygen-economizing effect in living tissue.

   The activating effect produced on non-specific defense mechanisms by procaine injections (subcutaneous and intramuscular, less clearly in the case of those given intravenously) has been proved by Joachi-

movits. He showed that the repolarizing action of procaine is regularly followed by a reaction upon the basic tissues, by demonstrating that an initial disintegration of leukocytes in the capillary region points to the liberation of certain enzymes, followed by an increase in the number of monocytes, histiocytes, and mast cells, which are so important for the body's spontaneous defenses. Some quaddles on top of the spleen (T8–T9) stimulate the organ of the immune system that is responsible for blood storage and result in direct improvement of the body's defense mechanism.

10. Of crucial importance is the direct influence of procaine on the vital functions of the cell. When a nerve receives a stimulus, the bioelectrical cell potential is reduced, the selective permeability of the cell membrane is altered, the balance of sodium, potassium, and hydrogen ions is disturbed and cell metabolism, including cellular respiration, which is so important for maintaining the electrical potential, is inhibited.
    According to Fleckenstein, procaine also has a regulating function in these processes. It seals the cell membrane, protects it against electrostatic depolarization, and enables the partly discharged cell to recharge its physiological potential again. Procaine, according to Pischinger, intervenes as oxidizing principle in the process of cellular respiration, as a substance acting on the cell membrane and as inductor of the bioelectrical potential. With this new supply of energy to the basic tissues, previously inhibited autonomic functions are once again set in motion. In addition to reactivating the tissue and cell potential, the oxygen balance and other functions such as the mineral, water, leukocyte and ion balance etc., are also reactivated. As a result, the cell returns to being a functioning unit again. As eutonia is achieved at the autonomic and reflex stimulation levels, the stimulus threshold of the periphery is raised again. If all goes well, it will be raised to a level where pain remains subliminal and the organ is restored to a state of rest in which it can heal completely.
11. The redox system (reduction–oxidation system) is a metabolic chemical system that can absorb or desorb hydrogen depending whether its state is oxidized or reduced. The movement of electrons causes electrical potential: the electron conduction or redox potential. Its level indicates the reduction or oxidization potential of a redox system. The system with a positive charge oxidizes the system with a negative charge and the one with a negative charge reduces the positive one.
    With +290mV (measurable with a platinumcalomel electrode), procaine has a high redox potential. Redox systems are important catalysts for the energy supply of cells. After dehydrogenation, they are responsible for the absorbtion and subsequent desorbtion of hydrogen to allow a gradual energy release, for example, during cell respiration. According to Warburg, depolarization of cytochrome c oxidase ("Warburg's respiratory enzymes") is the source of pathological processes because it deprives the cell of energy. In 1986, H. Lamers explained the healing potential of procaine with the fact that cytochrome c oxidase and procaine both have a redox potential of +290 mV. Procaine can repolarize and stabilize cytochrome c oxidase during depolarization, as long as the process has not turned autonomous. The flow of information and the regulation of metabolic processes in the basic autonomic system are restored.
12. In 1988, Professor Heine explains the neural-therapeutic effects of procaine as follows:

    > Different from acupuncture, neural therapy uses the preferred pathways of somato-sensitive stimulation on the spinal cord level in two ways: through the injection point phenomenon and the local application of procaine. The injection point phenomenon produces an interneural pathway, i.e., preference of the affected somato-sensitive pathways with decrease or temporary elimination of only peripherally affected somato-sensitive and slower conducting viscero-sensitive pathways on the corresponding spinal cord level. This causes an interruption, particularly in the visceral feedback circuits, an "irritation pause," located in the interference field and in the corresponding dermatome. Sufficient duration and some form of individual regulation capacity of the ground substance in the affected organ or area can induce regeneration of the ground substance and cellular functions (stimulation of individual self-healing abilities). This effect can spread autocatalytically, causing a systemic improvement of the basic regulation. (See Heine 1988, Perger 1987)

Through the injection of procaine, neural therapy also extends the "irritation pause," and by diffusion of the local anesthetic into the surrounding environment it covers a larger area of ground substance with terminal axons than does acupuncture. Neither the bond between procaine and axon membrane combined with the inhibition of membrane depolarization (Fleckenstein 1950), nor the redox potential charge of mitochondriae, is the primary cause for the increase of the "irritation pause." Its primary cause is the bond between positively charged procaine molecules and acidic sugars of the ground substance components (glycosaminoglycane, proteoglycans, glycoproteins).

This is supported by the following findings: if agar plates, used in microbiology, are colored with an aqueous solution of hyaluronic acid (0.1%) or chondroitin sulfate solution (0.1%) following procaine incubation with aqueous solution of toluidin blue (0.1%, pH 5.8), the metachromatic reaction is considerably lower compared with control tests. Isoelectric focusing shows the binding ability of procaine to polysaccharides. The bond between procaine and the above-mentioned 0.1% hyaluronic acid solution is the strongest when the ratio is 1 : 1. The bond between procaine and the chondroitin sulfate solution is the strongest when procaine is diluted with distilled water

1 : 100 000. The binding ability of procaine with sugar chains applies also to sugar components (primarily hyaluronate and heparan sulfate with terminal neuraminic acid) of the cell glycocalyx and to axons that end blindly in the ground substance. The anesthetic effect is produced through the neutralization of the charge between axon glycocalyx and axon interior, thus, the affected axon cannot be stimulated. This causes an interruption in the corresponding segmental feedback circuit: dermatome—muscles—viscera—peripheral nervous system—spinal cord—higher lever nerve centers—dermatome etc. If an interference field is located in the affected area, the interruption of feedback prevents the central representation of the noxious agent as pain. This is also a form of "irritation pause" that allows recovery of the ground substance. The extent of success depends on the precision with which the feedback circuit is defined by neural-therapeutic measures."

To put the matter in a nutshell: these local anesthetics, if correctly sited, produce not only a temporary nerve block, but create a complex regulating effect, and reactivate and regulate the functioning of the neurovegetative and basic autonomic systems. Their normalizing action on the regulating systems alone comprises an extensive range. In other words, sympathicotonic effects have been shown to occur, as well as parasympathicotonic ones, i. e., evidence has been provided that these products are able to restore equilibrium in the vitally important neurovegetative system regardless of its initial state or disequilibrium. On one occasion they can raise tonicity, on another they act as relaxants and reversants, as required. When used correctly, they are able to block excessive pathogenic reactions, which would otherwise initiate and establish pathological processes.

Of the various theories on the manner in which procaine acts, let me here take Luzuy's. This states that three factors act within one another:

1. The correlating balance is restored between the glands producing internal secretions.
2. The function of the diencephalon is regulated, especially its effect on capillary blood supply.
3. The harmful reflex arc is broken, including the antidrome effect, which manifests itself by massive histamine production and turns the sympathetic system into a pathological vasodilator.

Despite its chemical relationship to several time tested drugs and hormones, and the substantial number of useful properties that it has been proved to have, many questions remain open about procaine, which Reischauer called the "king of medicines." Empirical medicine has discovered cures for which all the known theoretical and experimental foundations available to us are still unable to provide adequate explanations. In this connection, the following may be worth bearing in mind: for the neural-therapeutic effect as such, which, as time has revealed, is by no means limited to any single substance, there is no other satisfactory explanation in scientific terms other than my repolarization theory. The equalizing and regulating effect on the neurovegetative system that lasts far longer than the anesthetic effect itself and that occurs even at dosages that are not enough to produce complete anesthesia, is the essential factor and far more significant than the sum of all the pharmacological components. This is shown all the more clearly when we find that large amounts of procaine injected intramuscularly or intravenously may be completely ineffective while even a minute quantity, accurately placed in an interference field, can produce the far-reaching chain reaction that we witness time and again in the Huneke phenomenon. Eichholtz and Muschaweck reached the conclusion, based on wide-ranging investigations, that the effect of the local anesthetics used in neural therapy according to Huneke is perfectly reconcilable with orthodox scientific experimental medical doctrine.

Originally, procaine was intended purely as a local anesthetic for use in surgery. But only a year after its discovery, G. Spiess, an ENT specialist in Frankfurt, published his observation that, apart from its anesthetic effect, procaine also developed therapeutic qualities and that it could be used to stop inflammation by infiltration around the affected area and thus allow this to heal more rapidly. Although this important detail was tested and fully confirmed at several hospitals, no attempt was made in Germany at that time to develop this line of investigation and these observations were allowed to be forgotten. The Pavlovian school in Russia paid greater attention to his work, but without recognizing the full extent of its therapeutic significance.

This knowledge was recovered only when the Huneke brothers, in 1925, accidentally rediscovered the therapeutic effect of procaine and made it available to every physician when they built it up into their "therapeutic anesthesia." They added the antidote caffeine to procaine, which, in larger quantities, can act as a convulsant, making it even safer for general use. It was soon found that the addition of caffeine not only reduced the toxic effect by half, but that it significantly increased the therapeutic effect at the same time. Nobody believed Huneke at the time. Sixty years later, Laska proved that an analgesic requires a 40% higher dose for the same pain-relieving effect if no caffeine is added. Caffeine acts as a vasodilator, notably in the region of the cerebral arteries, and of the coronary and renal vessels. It increases the permeability of the blood–CSF barrier and thus further reinforces the beneficial effect of procaine on the central nervous system. In 1928, Bayer Leverkusen put on the market and in the pharmacopeia this compound of 2% procaine and 1.42% caffeine as its effective agents in a sterile solution, under the registered name Impletol. The success of this product and the subsequent rapid spread of procaine therapy encouraged several other pharmaceutical firms to put "neural-therapeutic preparations" on the market.

Neural-Therapeutic Preparations Containing Procaine

In some countries, Impletol is on the market in identical composition under different names. If any of these preparations listed are used, the dosages indicated in the instructions for use should generally be followed, although in our experience these are often too large, so that accidents due to unnecessarily high doses are conceivable. Some of the products also contain additives apart from caffeine, with its detoxicating effect on procaine, and these, in our view, are not necessary and do not constitute any improvement on the original. These additives are intended to produce reactions that have nothing whatever to do with the effective principles on which neural therapy is based and are, on the contrary, more likely to mask their effect. We therefore prefer pure procaine or Impletol, or the products corresponding to these, and to keep to the dosages stated in Parts II and III of this book.

Neural-Therapeutic Preparations Containing Procaine, with Depot Effect

These were developed with the intention of further increasing the duration of the anesthetic effect. In the case of Depot-Impletol, resorption was retarded by the addition of Periston. This contains polyvinyl pyrrolidone (PVP) with the high molecular weight of 40 000, which, under certain reactive conditions, could produce foreign-body reactions. Other preparations have been produced with the addition of alcohol or an alcohol and oil additive. The manufacturers pointed out that the use of these depot preparations would produce irreversible degenerative changes in the nerve fibers and ganglionic cells, which would then lead to permanent blocking of the nerves. We regard surgical or chemical intervention that produces any permanent blockage of important nerve fibers to be a serious interference in the network of our vital nerves, which is bound ultimately to lead to consequences that we are totally unable to assess. We have therefore always refused to use depot preparations and have demanded their withdrawal. Their existence was due to outdated ideas foreign to the thinking on which neural therapy according to Huneke is based.

We do not, of course, want to produce any long-term anesthesia. The ultimately decisive repolarizing thrust into the system can be achieved with the simple neural-therapeutic preparations without depot action, in a far less harmful manner. These destroy nothing, but if they are sited correctly, they restore order where it has been disturbed. No depot preparation can achieve more, even under the most favorable circumstances. Fortunately, all these depot preparations have now again disappeared from the market.

Neural-Therapeutic Preparations without Procaine

1. Plenosol is a mistletoe extract standardized to biological necrosis units. At intervals of 3/5/7 days, strictly intracutaneous quaddles of progressively increasing doses (from 0.1 mL of strength I, according to reaction, to 1 mL of strength II) are set around arthrotically and rheumatically altered joints (especially the knee). At the same time, any hyperalgetic points and nerve-exit points in the segment should also be sought out. Plenosol injected intracutaneously produces free histamine at the injection site, which, in turn, inhibits cholinesterase, because of which a protracted local acetylcholine effect is produced. Markedly diffuse paravascular aseptic inflammatory infiltrations occur, which persist for 3–4 days. They penetrate in depth where they produce a persistently increased blood supply and a relaxation of the tissues. The stimulus produced by the inflammation is transmitted centripetally onward by the autonomic nerve-end fibers, switched over in the spinal ganglion and retransmitted centrifugally back to the segmental periphery where it increases the deeper blood supply.
   While procaine combats inflammation, Plenosol produces it. If no Huneke phenomenon can be achieved in joint disorders and the joint fails to respond to periarticular procaine quaddles, there is reason to suspect a regulation paralysis (Pischinger). In such a case Plenosol quaddles may be indicated as an inflammatory counter-irritant therapy and achieve better results than can be obtained with local anesthetics.
2. Segmentan is a 1.29% aqueous isotonic solution of sodium bicarbonate and is particularly indicated for patients with procaine allergy, for intracutaneous quaddles, and intramuscular and intra-articular injections.
3. Sensiotin contains hypericin D5 and atropin sulfate D5 in isotonic NaCl solution. During treatment, extended exposure to strong lights should be avoided. Ampoules of 2 and 5 mL.

Local Anesthetics with Amide Structure

In Seattle, in the United States, there is a pain clinic founded by the anesthetist Professor Bonica. Similar ones based on this example have been built all over the world. When anesthetists learned of the use of local anesthesia in segmental (neural) therapy, they used local anesthetics with amide structure that they were familiar with through surgery. They speak of “therapeutic local anesthesia” and tend generally to omit any due mention of the Huneke brothers as the originators of this therapy. The anesthetists like to use relatively large doses of the modern local anesthetics, as far as possible choosing local

anesthetics with a long-lasting action, because they equate duration of the anesthesia with the therapeutic effect. They only consider the temporary blockage of nerve impulses to be the prerequisite for healing. We, on the other hand, believe that the repolarization and stabilization of depolarized cell membranes in disturbed areas with minimum doses of procaine, accurately placed for maximum effectiveness, is another aspect of neural-therapeutic phenomenon.

Into the 1950s, procaine was the leading local anesthetic in surgery worldwide for all regional anesthesias and "nerve blocks." For surgical purposes, the local anesthetics with amide structure, such as lidocaine, mepivacaine, or bupivacaine, have advantages over procaine and took over in the surgical area. For neural therapy according to Huneke, these advantages are irrelevant. The downside of the amide-structured local anesthetics shows, for example, in their longer detoxification time.

Procaine, an ester of aromatic acids, is doubly and rapidly detoxified, for the most part immediately, by serum cholinesterase, by fermentation in the blood and tissues, and only a small part by conjugation of the liver. The amide-structured local anesthetics, on the other hand, are detoxified only in the liver.

The substantial difference in detoxification shows clearly enough in the toxicity of these products, the comparative values being: procaine = 1, Scandicaine = 2, Carbostesin = 8! Care is therefore indicated where the patient suffers from liver damage, liver dysfunction, or is pregnant. Because of the rapid metabolism of the complete molecule of the product, procaine is less often accompanied by toxicity symptoms and, if such occur, they normally pass off more quickly than is the case with local anesthetics of the amide variety. Moreover, procaine poisoning has the advantage of presenting primarily as a respiratory depression, which is easier to control than the mainly cardiotoxic effect of lidocaine, which can quickly lead to ventricular fibrillation or asystole. Nor are the new local anesthetics able to seal off permeable capillaries (Hirsch). We cannot, therefore, conceive of any compelling reasons to stop using the time-tested product procaine, even though it is not supported by clamorous publicity, particularly since we know that procaine does not affect intercellular transport in the nerve fibers, while lidocaine (Xylocaine) inhibits this transport and hence probably also the nerve functions as such (Kreutzberg). We therefore use these other preparations (e.g., Xyloneural) only in proven cases of procaine intolerance, and then only in low concentrations and small quantities.

We may summarize as follows: Any local anesthetic that does not contain a vasoconstrictor can be used for neural therapy according to Huneke. The least toxic preparation at the lowest concentration and in the smallest quantity adequate for the purpose is the best to use. It is also possible to achieve a neural-therapeutic effect, but to a lesser extent, without anesthetics, even by the intra- and subcutaneous injection of air. If one takes the needle alone and injects nothing at all, one is practicing a form of acupuncture, always provided the needle is correctly sited. The initial stimulus for the healing process can also be produced without a needle, by appropriate massage or any one of a large number of different forms of skin irritation. Every one of these therapeutic methods is intended to introduce outside energy into the tissue system, which will set off repolarizing effects in the basic autonomic system.

The neural-therapeutic effect is thus the result of an unspecific reversant stimulus that is not limited to any given neural-therapeutic preparation, although such products apparently prepare the way for an even more far-reaching specific healing effect!

Dosage[3]

Medicines as such are nothing at all
if they are not used correctly.
But if prescribed intelligently
and after due consideration,
they are the hands of the gods.
–Herophilus (fl. ca. 300 BC)4

The quantity of the neural-therapeutic preparation is always of secondary importance! The only crucial point is the correct site for the thrust into the neurovegetative system! The sick organism is, as it were, under stress when its own wonderful regulating systems are blocked and its spontaneous healing powers are therefore prevented from functioning. It always tends to restore normality. We call this normality health. If our injection strikes the correct spot, the effect is like that of cutting a tensed bowstring with a knife, by which the bow reassumes its original straightness. In the living organism, this means that the insertion of the acupuncturist's needle or our injection at the correct site enables the body to pull out of its blocked state and allows the natural tendency toward equilibrium and normalization to regain its ascendancy once more and to become healing reality. The physician can only initiate the process. Nature (or whatever other label one wants to give it) heals: *medicus curat, natura sanat*. (medicine cures, nature heals.)

Huneke's neural therapy confirms the findings of acupuncture, which has continued to exist for more than 5000 years, simply because it works, because it helps the patient. He has freed acupuncture of its mystical accretions, made its essential elements clearly discernible and simplified and complemented its complicated technique, making the art of the healing needle accessible to any

[3] Taken over from Dosch P, Dosch M. Manual of Neural Therapy According to Huneke. Stuttgart–New York: Thieme Publishers; 2007.

physician. The healing stimulus given to the energy structure of the living organism by the thrust produced by the neural-therapeutic substance is, moreover, more comprehensive and more far-reaching than the needle on its own, because the local anesthetic introduces outside energy into the tissue system.

The healing counter-stimulus should always be as small as possible. Arndt-Schulz formulated this point in the following effectiveness rule: "Weak stimuli rouse the vital processes, average stimuli promote them, strong ones hamper and the strongest prevent them totally." Of equal importance to us, however, is the less well-known rider: "But it is an absolutely individual matter as to what stimulus will prove to have a weak, a strong, or the strongest effect."

The sick organism responds particularly readily to stimuli of all kinds. Even the weakest stimuli can produce extremely strong reactions. With procaine and its very wide tolerance, it fortunately happens only very rarely that a hypersensitive patient, or one who is greatly debilitated by long illness, will say that our treatment has affected him or her to such an extent that he or she has been obliged to stay in bed for a few days afterwards. In such cases, the patient's stimulus threshold is so low that, for once, our stimulus becomes excessive for them. This fact should be recorded on their clinical record card. On the next occasion, procaine should be given to them only a drop or two at a time, at only a small number of injection sites, and the quantities increased only very slowly. Treatment intervals should be increased. The quantity of this healing stimulus that the patient needs and/or can tolerate, and the amount of procaine required to produce it (always the minimum possible!), vary with the individual patient and are largely a matter of the physician's own "fingertip sensitivity." As we have stated, these occurrences are so rare that there is no need to feel any anxiety about them.

Fig. 1.1 provides a quick guide to the maximum quantities of lidocaine and procaine used in anesthesia, as recommended in Great Britain.

With increasing experience, one learns to use ever smaller quantities. Anyone who wants to practice neural therapy successfully needs once and for all to get rid of the idea that we can practice our healing anesthesia only if we flood the affected area with our neural-therapeutic preparation, to block the nerve paths. The terms "curative anesthesia," "healing anesthesia," "therapeutic anesthesia" and the like, used in the early days of neural therapy, were found misleading and have been dropped. As has been stated, it has been proved that in neural therapy the healing reactions are produced at concentrations of the pharmaceutical products used, which lie below those needed for anesthesia! Best of all is always the smallest possible stimulus that is just enough to produce a response from the neurovegetative system. More can all too easily be too much! If we speak of "stellate anesthesia," for example, when using local anesthetics for neural therapy, it is not the same as a complete anesthesia for surgery! The healing stimulus, in the correct pinpoint position, produces a fundamental reversal, which affects the whole organism. This effect always persists far longer than the anesthetic action of the preparation as such. The secret of success, and one that does not simply drop into one's lap, lies in the injection site, not in the quantity injected. A surgeon, for example, may "flood" an affected knee with 50 mL of procaine. We can achieve at least as good a result by distributing a mere 2 mL by means of five intracutaneous quaddles around the knee joint.

The quantities given in the text refer to 1–2% procaine or 0.5–1% lidocaine solutions. They are intended strictly as indicative, and generally represent about the upper limits of the amounts needed. For test injections, 0.1–0.2 mL will often be enough! Where one is dealing with such small quantities, it is perfectly possible to carry out several test injections in a single session. We never give more than 1 mL intravenously, unless the injection is administered particularly slowly. Any dizziness that may occur following a rapid intravenous injection is of no account and wears off after a few minutes. Injection of cold solutions can be painful. In winter, the ampules should be held in one's fist before use to bring them up to body temperature.

Maximum Doses without Vasoconstrictors

1. *Procaine*: The maximum dose for procaine given in the publications varies between 0.2 g (Swiss Pharmacopeia) for a single intravenous injection, to 5 g (Vishnevski) for infiltration anesthesia. Toxicity depends on the site of the injection, the concentration, and the

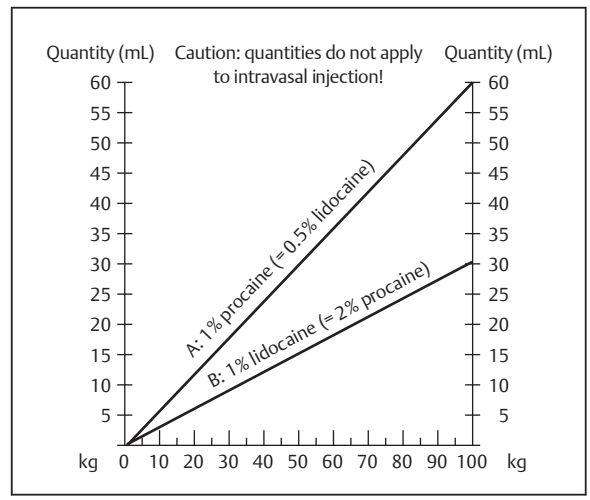

Fig. 1.1 Quick reference diagram for maximum quantities of lidocaine and procaine used in conduction anesthesia and local anesthesia, as recommended in Great Britain. The numbers refer to mL/kg of body weight. (Kelly DA. Use of local anesthetic drugs in hospital practice. BMJ 1983;286:1784.)

time taken to metabolize the product. In accidents, patients are known to have survived 15 g, while in extremely rare cases fatal complications have been produced with far less than 1 mg. All theoretical maximum dosages are based on healthy adults weighing 70 kg. For children and patients in a reduced general state, dosages should be reduced by 30–50%.

For procaine, the usual maximum dose is 1 g, i.e., 14 mg/kg body weight, equal to 100 mL of 1% solution. Since the toxicity of a local anesthetic increases as the square of its concentration, 100 mL of the 1% solution correspond to only 25 mL of 2% solution (100 : 2 × 2). The caffeine additive in the 2% Impletol preparation increases the procaine tolerance by 30–40%. In the areas of the head, neck, and genitals, a dose of 200 mg procaine within 2 hours should not be exceeded (Red List). *Quantities such as these are far greater than anything we ever use even approximately in a single session!*

The very small quantities we use enable the patient to be fit for the road again after a waiting period of 20–30 minutes. There is no risk of habituation or addiction, even if procaine is given for lengthy periods.

2. *Lidocaine*: The maximum dosage is given as 200 mg, i.e., 2.9 mg/kg body weight. For Xylonest, it is 400 mg, for Mepivacaine 300 mg = 4.3 mg/kg body weight and 150 mg for Bupivacaine. The maximum dose for Xyloneural administered intramuscularly is ~20 mL. Because of the slower resorption as compared with procaine, road-fitness is achieved more slowly.

Needle Size Equivalents

Size No.	Size (mm)	Size (inches)
1	0.90 × 40 mm	20 G × 1–1/2″
	0.90 × 120 mm	20 G × 4–6/8″
	0.80 × 80 mm	21 G × 3–1/8″
12	0.70 × 30 mm	22 G × 1–1/4″
	0.50 × 21 mm	25G × 13/16″
18	0.45 × 23 mm	26G × 15/16″