Towards A Theory of Exercise

by **HENRY LEDGARD**

based on
the work of
BERNIE FALK

Towards A Theory of Exercise

Henry F. Ledgard

henryledgard@theoryofexercise.com

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www.theoryofexercise.com

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Author's Note

This work is in its rudimentary stages. Hopefully it will be developed further. The goal is a work devoted exclusively to exercise—it's rationale, examples, root issues, difficult questions, pain, and health.

Part of the motivation for this work was my recovery from a back and neck problem that was as severe as almost any I have seen. During my problems, I must have seen at least 30 health practitioners in this country, France, and England. I saw some of the best orthopedic surgeons, physiotherapists, chiropractors, and acupuncturists. I had hundreds of medical visits. The diagnosis; scar tissue from a meningocele operation at birth, thinning of the spine, misalignments, a double reverse curvature of the upper back, reverse curvature of the neck, and arthritis. For three years I lived a life of pain. Many times I almost passed out. I had to cut out almost everything, including my job, playing with the children, and most driving.

Now, years later, exercise based entirely on Falk's theory has changed all this. The pains are gone. I have a new life.

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Principles

In this work I discuss one of the most exciting contributions to human knowledge. This is a particular theory of exercise. This theory is due to Bernie Falk, who, quite possibly, has done as much exercise as anyone on earth. He understands some remarkable facts about exercise and life.

There are, of course, many approaches to exercise. Some people are given exercises to solve some problem. There are many books on exercise. There are theories about what is good, and what is bad. There are myriads to opinions, issues, and questions about exercise. Consider the following statements.

- Why should I exercise?
- I play golf; that's enough.
- I already exercise; I'm fine.
- Aerobics and swimming are the best.
- What if I am afraid of exercise?
- Exercise wears you out.
- Exercise is boring.
- I'm active enough; I don't need to exercise.

These statements actually raise deep questions.

Many people seek exercise in some form. Aerobic dancing, walking, working out in a gymnasium, sports, a recommended fitness routine, and so on. Some people work out every day doing something they believe is beneficial. This is good in the sense that movement, in general, is good. We were designed to move.

MOVEMENT—THE CORNERSTONE

Falk's approach to exercise is fundamentally different from any other. The root issue is the basis. the foundation, of the approach. This is movement, everyday human movement. Movement is the way we perform physical activities, the way we sit and stand, and most importantly, the way we walk.

Movement plays three vital roles. First,

- **Movement is the most revealing diagnostic tool.**

This means that both our strong and weak points come out in our movement. Stress may show itself in a tight neck. A walk favoring one side impairs the back as well as the legs. Someone may constantly hold the arms and shoulders high, causing shoulder and neck stress, as well as stress for the heart. The point is that, to a trained eye, potential health problems like these are evident in one's everyday movement.

We all have weaknesses. By weakness, I mean sooner or later something will go wrong and cause

difficulties in health. For one individual it may be the back. For someone else it may be headaches, fatigue, or pains in the side. But, fundamentally, our activity level, our energy level, and our joy of life will be limited in some physical way. Those limits, in fact are developing now, although we may not be aware of them.

A person with strong biceps but a weak shoulder does not have a strong arm. A person with strong legs but a weak heart cannot run very well. The point is, simply, our entire system is ultimately limited by our weakest parts.

To a trained eye, observing one's walk will reveal a huge number of problems. A tense shoulder, for example, may be evidenced by a tight arm swing or little arm swing. A weak shoulder may result in uneven shoulders or a slight tilt of the neck. A walk with cross-lateral torque may be visible in a dip on one side after one foot has landed. All of these apparently innocent anomalies may be leading to more serious problems later one–for example, neck pain, bursitis, or heart problems. Even now they will inhibit one's life in subtle but important ways–for example, more stress, more fatigue, or less use of the body.

Weakness is thus revealed in everyday movement. The above point is a giant one. It means that a huge number of health problems, both current and potential, are exhibited in our movement today. A heart problem, for instance, is usually noticed only when a

person is older and starts having difficulties. Bernie Falk believes that many potential health problems are evident now, in the movement patterns one is using everyday. If you know that you might be preventing serious problems by doing certain exercises now, might you indeed want to try? If it made sense?

INDIVIDUAL MOVEMENT— THE CHOICE OF EXERCISES

Second,

- **One's individual movement guides the choice of exercise.**

This means individualized exercise is what counts. If I have a weak neck, playing golf for five hours will not help if I walk off the course and continue to hold my head down. But Head Lifts will help to strengthen the neck. If my walk is flat and out of balance, working out for two hours on an exercise machine will not help if I continue to walk in the same old way. But Low Walks may really help. If my back is slouched, playing squash or tennis will not help if I walk away in the same slouched position. But Dumbbell Situps may really pay off.

The best exercise restores an individual to beneficial movement patterns. Neck pain may lessen by doing Head Lifts or Visual Turns to loosen the neck so that it is used more freely. A back problem may improve when a weak knee is strengthened by Single Knee

Bends. It is one's movement, not necessarily one's pain, that guides the selection of exercises.

Note that there is really no single exercise or set of exercises that "is good for the low back" or "helps a bad knee." Yes, walking, Dumbbell Situps, and Forward Bends are beneficial for the lower back. However, if the lower back problem is ultimately caused by a one-sided walk none of these exercises will really solve the problem.

You have to get to the cause–then the exercise. It is easy to blame a sprained knee on a rock that was in the way, a sudden leap for a ball, an old injury, or a structural weakness. But a sprained knee may well be a weak knee. A strong knee–one that has not been abused by walking poorly and other inappropriate movement patterns–can take ordinary twists and spills with minimum ill effects. Only through exercise can the knee be made strong. The basic reason for exercise in the first place is to develop a body that can perform when we want it to perform–one that is resilient to the occasional jolts of everyday life. This raises a point pertinent to other approaches to exercise.

What happens when something goes wrong? Should I quit? Or go on, even if it hurts. In Falk's view, there is a real response to the issue of pain. A solution. That solution is–look to the way we move. Herein lies the cause of pain. When we find the cause, we select the exercise to treat the cause.

Finally here, an exercise that heads straight for a weakness may be hard, but it will feel wonderful afterwards. You will have no doubt of its efficacy.

BENEFICIAL MOVEMENT— A FOUNDATION FOR EXERCISE

Third, and finally.

- **Beneficial movement is the basis for each exercise itself.**

Thus Forward Bends are wonderful because they loosen tight knee, leg, hip, and back muscles and thus promote freedom of movement in general. Chest Curls are excellent for developing chest muscles and for sensing a straight upper back.

Consider the Low Walk, one of Falk's central exercises. The movement pattern of this exercise is superb. The feet must operate with a strong heel-toe movement. The knees and legs move forward with a good flex. The back is strengthened, the head is up, goes deep into many elements of walking. All this action reinforces good walking patterns.

Beneficial movement influences all of Falk's exercises. For instance, with an exercise involving the feet, the feet are usually straight ahead. With the back, the weight is moved directly forward, or backward. In rotational movements, say the Wrist Curls, the

rotation is at right angles to the supporting part of the body, much the rotation of a wheel on its axis.

Now consider riding a ten-speed bicycle. For the feet, knees, and legs, the exercise is fine. But for the back, shoulders, and arms, not so. The back and arms are kept in a relatively rigid position and the shoulders tend to be hunched. To ride a bicycle to full benefit. Some care should be taken reduce these effects, for example, paying attention to keeping the shoulders relaxed. As movement, as recreation, as fun, cycling is excellent. As corrective or beneficial exercise, cycling does not hold up.

The basis on beneficial movement leads to another point. A good exercise will always make one better afterwards. There will be no question. A good exercise id good, period. And more of a good exercise is better. If you try Dumbbell Swings for 5 minutes, your arms will feel loose and lighter. If you try Dumbbell Swings for 15 minutes, your arms may seem like a rag, but they will feel even better.

BALANCING WEAKNESS

Any exercise effects some muscles more than others. Since one of the keys to Bernie Falk's movement theory is that pain is caused by body imbalances, it follows that the most potent exercises are those that strengthen weak areas.

Consider the Single Hand Pushups. Here a person stands about two feet from a wall, puts one hand on the wall. This exercise will strengthen and build up the given arm, shoulder, and side of the upper back. Now consider another exercise, a kind of Dumbbell Swing. One takes a five or ten-pound weight in one hand and repeatedly swings it forward and backward. This exercise will flex and lower the given shoulder.

A part of my problem was a muscle imbalance of the shoulders. I had a (relatively) tense and over developed right shoulder, and a weak and lower left shoulder. To help correct this imbalance. Bernie prescribed single hand Dumbbell Swings for the right shoulder and the Single Hand Pushups for the left.

Similarly, my left leg is noticeably weaker than my right. Single Leg Hops strengthen a weak leg. Hence, for me it is the left leg for which the exercise is prescribed. On the other hand, my right leg is noticeably more stiff (more tense, less flexible). Forward Bends is a stretching exercise. Hence, I do considerably more stretching on the right leg.

In both cases above, (the Single Leg Hops and the Forward Bends), it is obvious which side needs the work. It is the weak (not the strong) side. the weak side will be harder. The goal is to make the weak side equal to the strong side.

REPETITION

It is difficult for some to believe that doing Low Walks every day or doing Knee Rolls for an hour is sensible, not to mention good. But repetition, which certainly requires discipline, is wonderfully beneficial. When an exercise is good, it is really good. Repetition systematically provides greater strength and trains the mind for improved movement patterns.

Consider someone who walks with a hunched upper back. Suppose the person makes that effort to do Toe Walks for half an hour. Or works on various upper back stretches for 45 minutes. Or does a few hundred Dumbbell Situps. What fine muscular training to walk tall.

Repetition also serves another function: It is the way we systematically train and re-program the brain to accommodate new movement patterns. This is the way infants learn to walk. They try over and over again, perhaps for hours a day, practicing getting on the feet, practicing taking steps. This is the way children learn to write. They practice the pencils, different paper, but always the same alphabet. It takes months and months to learn to walk or to write. Developing movement skills takes practice, much practice.

Repetition is thus the way we let the body adjust over time. It is the way for muscles to become truly stronger if they are weak. It is the way for a weak

muscle to finally become equal with a stronger abused by years of neglect, it may take thousands and thousands of the same exercise to bring the knee back to a good state. But if the exercise is right, it will work and it will help achieve a goal.

Repetition serves yet another function: A mental one. It is through repetition that we learn to understand an exercise, to let our minds focus on it. Bernie's view is not to just do 20 of this and 20 of that, but to work at something for 15 minutes, 30 minutes, or even an hour. The goal is to give our mind a chance to become at peace with an exercise. In this way, the mind slowly understands it, senses it, enjoys it. Eventually it will not be a chore.

MODERATE FORCE

All of Bernie Falk's exercises are moderate in their use of force. There are no heavy weights, no prolonged pressures. Strength is achieved through greater repetition rather than greater force. When an exercise treats a specific weakness, say a weak knee or arm, the weakened area is exercised in a regular, moderate, and repetitious way. But that does not mean one does not get a good workout. Five Low Walks may be easy for anyone who can walk unaided; one hundred, however, can be vigorous even for a long-distance runner.

Falk's exercises also avoid patterns with irregular forces, unusual angles, odd twists, or irregular timing. Shoveling snow, raking leaves, pulling hard with one

hand, are examples of difficult patterns. The movement required goes askew to natural body lines. Not that these movements are necessarily bad; we should welcome all movement and try to make it beneficial. The point is just that most ordinary activities are not at all the same as beneficial exercises.

There is a strong preference for exercise of the stretch-release type. In the Dumbbell Situps, for instance, each muscle used in the exercise has a rest at some point–the arms are relaxed when the weights are down, the back and neck are relaxed when the body is up and forward, and so on. In general, other than stretching, he avoids exercises that hold the body in a fixed position.

STRETCHING

Stretching exercises are fundamental to Falk's approach. He himself stretches in hundreds of ways, often for long periods. Stretching includes the toes, knees, legs, back, neck, arms, fingers, hips, and on and on.

The goal is to develop the full range of the joints. Stretching reveals weakness almost immediately. One side or one direction of movement may be more difficult then the symmetric side direction. This means–work on the harder (the weaker) direction.

Stretching is an especially satisfying form of exercise. With patience, most stretching exercises become

easier as one does more. A side that is difficult will become easier. The body will give; tension will release. The sense of well-being will be apparent.

PROGRESSIVE STAGES

An important aspect of Falk's approach to beneficial exercise is it's progressive nature. To achieve most benefit, the exercises should change as one's movement and strength change. The issue is one of general strength. The exercises for a strong and pain-free person must be different from those for a weak person suffering from years of neglect.

Consider the Dumbbell Laterals. In a weakened state, I started with five-pound weights, doing maybe fifty laterals. Later the exercise was scaled up in three different ways. First, the number of repetitions was increased. This requires not so much additional strength as discipline. But more of any good exercise is better. Second, the weights were increased to eight or ten pounds. When I could do 100 laterals with the five-pounds weights without stopping, for instance, I moved up to a higher weight. Third, the exercise can be done with the head positioned over (not on) the incline board. In each of these ways the exercise advanced right along with me.

Let us also look at the following three exercises: Toe Walk, Squat Jumps, Jump Rope.

These exercises have much in common. They are done in an erect stance and support comes from the

legs; they worked primarily on the feet, knees, and legs; they reinforce good posture. But among other significant differences, they differ in the strength required. In my original state with a weakened knee, back, and neck. I started with the Toe Walk, gradually building to Squat Jumps, or Jump Rope.

Now suppose in my weak, original state I tried Jumping Rope. For one thing, I did not even have the strength to hop up and down for ten seconds, let alone skipping rope. On the down side, a sudden irregular movement might have caused a sprain. Vigorous use of the body requires a certain minimum strength before each of these exercises was completely safe. But now suppose in my weak state I started by doing Squat Jumps, or even worse, with a serious neck problem like mine, attempted a headstand. These certainly do entail risk. But who, in such a weakened state, would ever imagine doing it? Not I. Again, common sense must prevail.

A SMALL EXAMPLE

Choosing the right exercises is an issue that is absolutely central to Falk's view of exercise. What does it mean to do an exercise, say, to keep your feet and knees parallel? Suppose, for the moment, your feet being out a bit as you walk.

What exercise might help this? Let us first look at an exercise called Single Knee Bends. Especially for someone with a weak foot or a weak knee, this

exercise will not be trivial. All the weight will be on the leading foot, which is kept straight. Keeping the foot straight aligns the foot. Keeping the weight over the knee and foot makes it a real exercise. An individual my only be able to bend a few inches at first. The net result of this exercise will be to align and strengthen the foot, knee, and hip.

Next consider a related but definitely different exercise, Knee Bends (using both knees). This exercise works on both feet simultaneously, as well as both knees and both hips. The weight is balanced between the legs, rather than on one foot as in the Single Knee Bends.

Next consider Squat Jumps. This is a vigorous exercise, and gives the feet, ankles, knees, and legs a nice workout.

All three of these exercises will strengthen a weak foot as well as promote proper alignment of the foot. Which of these exercises is the best to prescribe? Well, to start with, they are all good. None will cause pain, and they all benefit various parts of the body, including the feet. The best exercise will depend on other factors that govern other aspects of everyday movement.

The Single Knee Bends are especially potent when the imbalance between one side of the body and the other is especially great. The Knee Bends might be better when the knees need strengthening to put the weight on the feet, for example, for someone who snaps the

knees back when walking. The Squat Jumps work more on the backs of the legs and feet, stretching weak muscles. This might be especially useful when general tension in the legs is an issue.

But note well, very well. It is one's everyday movement that will guide this choice.

Movement reveals one's weakness. Moreover, one of the cardinal premises of this book is that the right exercise will be truly potent and provide real satisfaction. An exercise that will strengthen a weakness will feel terrific when you have finished.

THE NEED TO SEE OURSELVES

It is difficult to observe one's own movement. My teacher (Bernie Falk), who could observe my movements. Even during my years in pain, I never realized my back was not straight or that I walked heavily on one side. A teacher can see what we can't see. Moreover, with Bernie's guidance, I was able to obtain a set of exercises that was excellent for me. These two ingredients, a teacher and a wise choice of exercises, were critical to my movement program.

I well recall, during my bout with pain, the hour's swim I took almost every day. This is exercise, and it gave me some energy. In the first week of being introduced to the methods described here, however, the swimming was replaced by an hour of exercises tailored to my weaknesses. The difference was dramatic.

It is also difficult, very difficult, to see how weak we ourselves actually are. Perhaps a small story will help.

It's about a duck. The episode took place on a warm summer day about six months before I met Bernie Falk. I was swimming in a nearby pond for my hour's therapy swim. As I glanced up to take a breath, I saw, to my surprise, a duck, airborne, apparently about to land on my head. I bolted out of the pond. When I got out, my lower back hurt much more than normal. The next tow days were awful, with considerable pain medication and an emergency chiropractic visit.

Now, years later, I can report that since meeting Bernie Falk I have been in a car accident with a hit and run driver, had some good spills skiing, and had some falls on ice. No pain.

The point is simple: The right kind of exercise is really potent.

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Practical Matters

There is a point about “pain” versus discomfort that deserves to be made. If you sit on the floor in a straddle and try to do a Forward Bend, You will experience (a perhaps uncomfortable) pull somewhere. If you hop on your foot, you can hop on it until you really feel uncomfortable. This is a kind of discomfort that disappears as soon as you finish the exercise. This is not pain.

Pain persists. Pain feels different. People in pain know the difference between real pain and discomfort. Beneficial exercise will bring temporary discomfort, but should never bring pain.

SAFETY

Any weakness brings up a difficult point: how to strengthen a weak area without putting it under stress. If your knee hurts when you walk or run, it is hard to imagine exercising it. If you have neck pain, you might be afraid to use the neck at all. Before I met Bernie Falk I often tried to do some exercise to relieve my pain only to find that the exercise itself led to more pain.

For instance I used to do the yoga-type head rolls. These are presumably good for the neck. Here the

head is rolled around in a front, left-shoulder, rear, right-shoulder, circular pattern. During my bout with neck pain, whenever I tried this exercise, I found that my neck really hurt afterwards. I grew to dread it. I now believe the sideways tilt of the neck is odd and questionable as a good exercise.

From a movement view, I had a neck problem resulting, in part, from years of working at a desk and keeping my head down and tilted. The worst neck exercise for me would be one that twists the head down at an abnormal angle. On the other hand, an exercise that keeps the head back, say the Head Lifts, or an exercise with a level sideways rotation, made me feel better. The more I did it the better I felt.

Other exercises prescribed by others led to pain. One, in which the arms pull and press a pump held across the chest, was supposed to strengthen my upper back. For me, it often led to even greater pain. I finally abandoned it. It shows the subtlety of Falk's exercises. The apparently similar Dumbbell Laterals were wonderful.

This kind of issue has, I suggest, confused the medical profession's approach to many health problems. Fear of court suits, fear of injury, and fear of risk, has enormously inhibited certain potential solutions. These solutions relate to doing more, to really exercise. Of course, there are quick, harmless exercise programs that do little. But it is safer and easier to say: do not run, or rest more, or take this medication.

Falk's exercises are the safest exercises one can do.

Why? Because the exercises are all based on beneficial movement patterns. This means that the chances that Falk's exercises will hurt in any kind of way are slim, less likely than any other exercise approach. Even for a person in severe back pain, an exercise like Dumbbell Situps (which exercises the back itself) is unlikely to cause problems, even if one tries to scale up too quickly. Notice that a person in pain is usually fearful, extraordinarily unlikely to do anything unreasonable like using weights that are much too heavy or doing an exercise that risks a fall. A beginner will not get on a trampoline and attempt to do a flip.

Notice the balance of several supporting (not contradictory) views. Any exercise for any person should be chosen carefully. This is central to Falk's approach to persevering or restoring health. It may be months before an individual touches a ten-pound weight. On the other side, in the stages of recovery from a problem, a particular set of exercises will eventually become easy, too easy. One may want (really want) a new set.

FEARS

So now, what about fears? Will an exercise hurt? Is it dangerous? What if an exercise is done the "wrong" way? For a person in pain, these questions are paramount.

For the first few months of working with Bernie Falk I was full of misgivings. I questioned every exercise. I hardly believed that more of any exercise was better. If I did 100 Forward Bends without hurting, I was relieved, but certainly not keen to do another 100. If I did another 100, I would again be relieved to have made it. Looking back, they never hurt at all. Only now do I really believe they are safe.

Interestingly, except for one minor pulled muscle doing Chest Curls, no exercise ever hurt me in any way. Keep in mind that Bernie Falk did not suggest Jump Rope for a couple of weeks or jogging for three months. I had to build a minimal strength before attempting these. In my initial state, it was unthinkable. Even when Bernie did suggest them, I must say that I was still surprised.

As for fears that an exercise will hurt, I offer these thoughts.

My exercises did not hurt. My physical inability to go on, not pain, ultimately limited my number of repetitions. Exercises that are based on beneficial movement patterns are the safest exercises one can do. Fears about choosing the “wrong” exercise or doing an exercise the “wrong” way are, in a sense, misleading issues. An exercise that is tailored to one’s problems is on the right track. The goal is to do it effortlessly.

TRYING EXERCISE

Bernie Falk's approach is one of prescribing exercise. The best exercises are those tailored to one's movement, at one's personal level of physical skill and condition.

This issue leaves open the question of what can one do to get some idea of what Bernie Falk's approach is all about. The exercises presented in this book are a sampler of exercises that Bernie used. A given exercise will not necessarily get at a specific problem.

For instance, Head Lifts may not necessarily help someone's particular neck pain. On the other hand, it may be terrific. It all depends on where the weakness is and what is causing the problem. If you cannot do ten Head Lifts without a rest, then the exercise is likely to be terrific.

Even without being prescribed, each exercise will help understand some problems and give the reader a sense of body awareness. These exercises are meant to teach some fundamental aspects of human movement. It is Bernie's thesis that one can only learn through practice. The exercises given here cover much of the body. They assume that the reader has enough energy, strength, and flexibility to be able to carry on a some what normal life. This means someone who, say, can walk to the store and work in the garden. Those who do not have this degree of movement may need to

start with more primitive exercises than those given here.

Keep in mind that developing an individual movement program does not mean going out and jogging three miles or immediately attempting to do 200 Dumbbell Situps. The body may not be ready. Developing strength takes time. One starts with small goals, establishing basic muscle strength and nerve patterns, building from one stage to the next. It is a slow process, one step at a time.

Many of Bernie's exercises look deceptively trivial. For instance, in the exercise called Visual Target Practice, the reader is asked to move the eyes from side to side. Trivial? No. Just doing 50 of these will teach you something about the eyes. Extraneous movements often associated with moving the eyes will lessen, and so will the resulting tension that comes from these extraneous movements.

Other exercises may wear the reader out after only a few repetitions. For instance, the Bicycle may be hard to do ten times. This should alert the reader that there is a weakness somewhere, for some people will find this exercise definitely easy.

As for the order of exercises, in some sense it does not matter. Any order that feels natural is fine. Some exercises can be done sitting down, some lying on the floor, some standing up. It is better to do one or two exercises well then run through some list in a half-

hour. As for the number of repetitions, 20 is a good rough starting number, 200 a good goal. More is better.

Paying attention is important. I cannot leave this section without mentioning one of my exercises. It is an exercise that shocked most people who knew of my back and neck problems. It certainly did me, at first. It is called Kickups. I started practicing this exercise with small Kickups, and in time, several months, I was able to go straight up with my feet against the wall. This exercise has been excellent for strengthening my wrists, arms, shoulders, neck and upper back. Many people hardly believed me when I suggested it was good for my back, but it is!

EQUIPMENT AND TIME

To do the exercises on this book, some equipment is useful:

- Some hand-held weights (3,5,8 and 10 pounds).
- A slant board with an open upper (these are hard to find).
- A mat.
- A good jump rope.

These are not essential, just very helpful. For instance, one can construct a make-shift slant board with cushions, mats, and whatever is handy. If need be, exercises that call for a slant board can be done on the floor instead, using a thick mat if possible.

How much time is needed? A half hour is a good minimum. An hour is better. Two even better. For me, I now need much less rest and sleep, so time-wise I am even ahead. People with problems certainly find time to go to the doctor or the hospital. I did. Add up this time, and exercise is the winner.

Exercise is best when it also provides a complete break from the stresses of everyday life. This means a special time set aside, without interruption. The body and mind relax together. It is desirable to exercise in some special place, or even outdoors. Music can be a fine companion. An hour of uninterrupted exercise by oneself can bring real satisfaction and well-being.

EXERCISE IS LIKE READING A BOOK

All of Falk's exercises are a challenge, but not in the usual sense. The exercises have a deep purpose. The goal is to make the exercises, each of them, effortless. To do this, one must pay attention. Rushing through any exercise program just makes it harder. The challenge is to:

- Sense the body.
- Become aware of subtle movements.
- Eliminate extraneous movements and tensions.

Then, all of a sudden, perhaps in stages, an exercise will truly become easier.

A given exercise may need several breakthroughs in awareness in order to make it effortless. For example,

in doing Bicycles, one may have to understand how to relax the neck, and then relax the foot, and then to connect with the abdominal muscles, and so on, until the exercise is almost as easy as walking down the street. It may take years, but it will happen.

To achieve this sense of "effortless effort," one should consider any exercise like reading book. When you read a book, you read and understand several paragraphs or pages and then an idea occurs to you about its deeper meaning. The same can be said for exercise. You cannot force your legs to be light, but you can try to sense when it happens and what makes it happen. The best attitude is simply to do the exercise and listen to the body. If the neck or a leg slowly feels lighter, if a rotation gets more even and effortless, or if the pull on the back slowly becomes lighter and the muscles relax, pay attention, for herein lies the key to doing the exercises effortlessly. Think of reading a book–the book is you.

Why is this important? It is so we can become aware of ourselves. Many people subconsciously rush through life. They do not see themselves, or others, or how others see them. By focusing on the exercise, we (1) learn about our physical state, (2) relax the mind.

For instance, when I first started doing the Single Leg Bicycle, it was tiring and hard. I could do no more than 10 or over 20 without completely fatiguing my right leg. I tried the exercise over and over again, and still the effort was hard. At first I sensed tension in the shoulders, and eventually found a relaxed position.

Later, another time, I felt my foot relax. I had not even realized that I was putting stress throughout the leg and made the exercise harder. When I finally learned to let go of my foot, instead of doing 10 or 20, I could do 60 without tiring. But that is not all. When the foot finally loosened from my leg, it felt wonderful.

What did I learn? I realized that all of my life my feet have been tense–When I walked, sat, moved, perhaps, even when I was sleeping. My foot was always tight and tense and thus a source of stress throughout the day. When I finished the exercise and finally loosened my foot and tried to walk, my foot moved with pleasure. It was even a bit magical to realize that one small storage area of stress was being worked out. This is the kind of excitement that exercise can bring.

Similarly, when doing Head-Hands Sequencing, my right side always hurt a bit. As long as I listened, that is, paid attention to what was happening, I realized it was odd. It took years, but one day I realized my neck was slightly tilted. Thus, bingo! I straightened my head, and it was easy. I now know that this was a problem all my life, how one stores stress in subtle ways.

This kind of achievement is true for all of the exercises. When you get it, you will know that you have it. It will improve your movement and you will feel proud. Exercise will be a pleasure. But to do it, you have to pay attention, to read the book.

3

Running

Millions of people run or jog, some a few hundred yards, others mile upon mile. As you watch them from your car window, you may think it's just a fact, and positively exhausting, if not brutal.

Why would anyone want to do it?

When I was forty, this was my collected wisdom about jogging:

- It is much too difficult and boring.
- It is bad for the ankles.
- It is bad for the knees.
- It may be bad for the lungs.
- Jogging in the rain or cold is harmful.
- It is dangerous for people with back problems.
- Life is too short to waste time on it.

During my encounter with pain I was virtually terrified of jogging. When my back was especially bad, sometimes I would need to run a short distance, then would stop and worry.

As there are so many opinions on jogging, it is hard to know what's what. People with back problems are often afraid to run and some specialists advise against it completely. Is jogging good for you? Is it better to jog slowly, or go faster for a shorter distance? Is the type of jogging shoe important? Should you land on your heels or your toes? Take a long stride or a short one? Even if jogging is good for your heart, is it good for your back or bad for it? And why do some people find that their ankles or knees hurt? It's hard to find any two people, experts or amateurs, who agree on these points.

Before we get too involved in details, let me say that jogging was wonderful during my recovery from pain. It almost stunned me to realize this. I found that it was a mild exercise for the back itself and did not jar my back at all. I started jogging after three months of my new movement programs, by which time I certainly had not eliminated all pain. Even after a fifteen minute jog, the pain relief was quite noticeable. I remember well, during my recovery, completing my first half-hour jog. A new world unfolded, a world without the old limits and fears. What a surprise I received– it was more effective than any pill I had ever taken.

I now understand why jogging is so beneficial. When jogging, the position of the body is ideal. The back is straight, the knees are flexed, the arms are loose, and the body is free.

The exercise benefits many areas:

- The feet: The feet, which are essential for improving one's walking pattern, are given a good workout.
- The ankles: The ankles, which can be weakened and abused by too much sitting, are exercised with a strong forward movement.
- The knees: The knees, also essential for developing good walking stride, are flexed and strengthened.
- The legs: The legs take a lengthy stride, develop endurance, and become stronger.
- The back: The back has to be held straight simply because it is hard to slouch when jogging.
- The shoulders: The shoulders, a frequent victim of stress, receive a mild workout.
- The head: The head must be held up.

All of this good movement is repeated over and over again, for thousands upon thousands of steps.

HOW TO JOG

There are many opinions on how to jog. Bernie Falk's view on jogging is centered around its contribution to total body movement and the long-range effects on well-being.

Bernie Falk's first advice is that jogging is done on the toes; more precisely, the heels never touch the ground. This is the way young children run but not the way most adults do, and therefore quite a controversial point.

The toes provide a basic cushion for the movement, acting as a shock-absorber for the body. Imagine jogging only on the heels, and the point is clear; the jolt to the ankles, knees, and back would be severe. Jogging on the toes and ball of the foot forces the body forward and smoothes the entire movement.

Jogging on the toes is also quite efficient. The flow is lighter. The body does not bounce about. The smoother and lighter one's jog, the farther one can go. Using the toes also serves another purpose–the development of additional strength in the toes and knees, a special concern for walking.

You will notice that the use of the toes in movement is stressed in many of Falk's exercises, for instance, the Toe Walk, Single Leg Hops, and Jump Rope. All of these use the toes for support. The toes provide the cushion for shock, and force the body into a naturally balanced position.

The stride itself should be relatively long. This promotes a better muscle pattern for a full walk. The toes and knees get a better workout, the upper legs gain additional strength, and the movement is more fluid and balanced.

Bernie has also offered the following tips:

- The "feel" of running is like falling forwards.
- The legs "catch" rather than push the body.
- The butt is forward and "under" the back, not sticking out in the rear.

- The shoulders should be down and relaxed (counting 1-2-3-4-5-6-7-8-9-10 very fast will help teach the idea)
- The right arm and left leg (and its opposite pair) are "connected."

Developing in these ways makes jogging easier and even more beneficial.

The goal is to make running effortless. The is a point few joggers ever realize. When you run, pay attention. Where are the toes? The arms? Are the shoulders relaxed? Do the feet take equal weight? And so on. The purpose of paying attention is to find out how to make jogging easy. Jogging is not an excuse to let the mind drift through the day's events. Try to understand how one actually jogs, sense when something is easier, and study it. In Bernie's words, the goal is — effortless effort.

The most difficult issue for me has been developing a symmetrical jog. This apparently simple issue has required constant attention for years. I still favor my right leg, point my left foot outwards, and let my left knee cave inwards. It amazes me that, before Bernie Falk pointed it out, I had never given the matter a thought. An unsymmetrical jog? Who? Me?

What is the point of all this? Jogging itself is a splendid exercise. Jogging can strengthen the body where it is weak and helps achieve better movement throughout the day. Moreover, it is especially

beneficial if it is done well and does not reproduce the imbalanced patterns that underlie other problems.

JOGGING AND PAIN

Now for a difficult problem. Jogging is an exercise whose movement pattern is beneficial and should be painless. Yet, many people fear jogging, do not jog or quit jogging because of a pain. It is tempting to conclude that jogging itself is the culprit. It is likely that this is not the case. The problem probably lies elsewhere–in one's daily movement patterns established over a lifetime.

I recall a small example that illustrates this point. Having recovered from my pain to a large degree, I had worked up to jogging a few miles. When I tried to extend the distance, discomfort in the right ankle became difficult. Was my right foot being used improperly? Was the weight too much on the right? I eventually concluded that the cause was elsewhere. What was the cause?

After considerable introspection I observed the way I was sitting! When my feet were on the floor, my right foot was almost always twisted inwards; the weight of the leg was pressing down on the right ankle in an unnoticed but most awkward position. Now, sitting for four or five hours a day, 1,500 hours a year, the ankle was always under slight stress. Indeed, might the ankle hurt under a good workout?

If one's walk is sufficiently off, jogging, for all practical purposes, will be impossible. An ankle may hurt, one leg may be weak, a knee may ache, or there will be some sort of pain that won't go away. The reason is simple. If certain muscles have become weak by inappropriate walking patterns, jogging will almost surely expose the matter. It may take only twenty yards to reveal itself, or twenty miles, but it will occur. The only real solution to this matter is to work on one's walk.

This all brings me full circle to one of the opening themes. It is inappropriate movement (daily muscle stress) that implicitly causes pain. This does not mean that the cause of the pain is necessarily where you feel it. Nor is the pain necessarily caused by something you do when the pain is noticeable. It means that something, something you do every day, is causing imbalances and stress. The effects are both direct and indirect.

There are people who should be careful before attempting to jog. Someone with stress on the heart, for instance, might be advised not to jog. Remember that Bernie Falk did not suggest jogging for me for some time. With my severe movement problems I was not even able to tolerate sudden movements. Landing on a stone or stepping sideways may have led to a pulled muscle or a minor, but painful sprain. The key here is first developing basic strength in weak areas. For this, a regular program of exercise can serve as a

starter. Since my toes, ankles, knees, and back were so weak, jogging would have been difficult at best.

I am not really sure of all the factors in Bernie's decision about when to suggest that I jog. General health, heart condition, stress, these are all issues to consider. My first attempts were a short distance on a smooth surface. These were easy two-minute jogs, and caused no problems. Over a period of weeks, I worked up to ten minutes. These were hard work. Then the break came: twenty, then thirty, they sixty minutes. Bernie actually believes that jogging off and on all day is fine. But note, his key is to develop basic mental and physical strength as well as better movement patterns to make it all work.

SIDE NOTES

As a side note, on which almost all joggers agree. I found that there was a minimum length of time required for me to feel the real benefit of jogging. When I could jog for only five or ten minutes, it was hard and tiring. When I could jog for half an hour, it was considerable less difficult and felt wonderful afterwards. I reckon that the minimum time which makes jogging, or any other exercise routine for that matter, really feel beneficial is about twenty minutes.

This does not mean that five minutes of exercise is a waste. Not at all. But to "feel" the fine effects of exercise, twenty minutes is a rough minimum.

When it comes to the choice of how far to run, I return to another opening theme. Beneficial exercise is beneficial, and the more the better. We were designed to move; our well-being thrives on it. Bernie's conclusion is like that for all exercises that promote proper movement. Unless there is some other health issue to consider, more is better. When I could jog five miles, I was the beneficiary.

As for the running shoe, of course good shoes are helpful. I enjoy using a good pair. But Bernie asks some other questions. Will a $500 shoe help if one's walk is imbalanced and thus running is painful? If one's walk is not full and relaxed? If the ankles or knees suffer from a lifetime of improper movement? If one jogs with most of the weight on one side?

When it comes to jogging fast or slowly, the matter is less clear cut. There is a sense of accomplishment in speed. But in some sense, speed should be subservient to distance. I find it far better to take a long time and jog five miles than to do one fast mile and call it quits. The reason is simple–when someone jogs five miles, think of all those steps, all that back exercise, all the strength in the ankles and servers in days to come. One's entire movement patterns benefit.

4

Why Exercise?

The best reason to exercise is to make life better, significantly better.

In order to make our lives work, the body must be in excellent shape. Look at children. See how much energy they have. They are not limited by aches and pains or the fatigue of sitting hours in a chair. They have energy; they have the will to try new things; experiment; fall; get up again; and accomplish great things.

This is what exercise should do for us. It should give us the clarity of mind to make wiser decisions. It should give us the peace of mind to enjoy what is in front of us more. It should give us the energy to solve hard problems. It should give us the bounce to make life fun and pleasing.

These are the larger goals of Falk's approach to exercise. His approach teaches one about relaxation, lightness, and well-being. It works. It really works.

Thus the purpose of exercise is not solely to build muscles. It is not at all to impress someone else. It is

not to run a marathon, although to do so is a great achievement. It is not solely to lift an even heavier weight. Rather, the purpose is living, in the best sense of the word.

There will be several direct efforts of a sound exercise program. The most obvious is one's physical health. For me, my exercise program has caused a dramatic physical shift.

Related to this are major mental effects. These are more subtle, but potent. Exercise can make every day better than it would be otherwise. Exercise can help one get back one's equilibrium, help one see the good things when trouble occurs. It can give mental bounce, make good things even better. This is what the right exercise program can do.

THE PHYSICAL EFFECTS OF MY EXERCISE PROGRAM

- No lower back pain
- No upper back pain
- No neck pain
- No shoulder pain
- No finger pain
- Do not fear heavy chores
- Can carry heavy objects
- Have run 10 miles comfortably
- At some periods, have done thousands of jump ropes
- Have been able to work for long periods
- Appreciate much more physical movement each day
- Know what energy really is
- Can ski without fear of pains returning
- Can ice state
- Can play with children without fear
- Sense the value of a handstand
- Weather has not interfered with my jogging
- Sense effortlessness in normal movements
- Legs feel lighter
- Sleep less
- Seldom experience physical fatigue
- A natural shift of diet
- Weight is lighter
- Can go without food longer
- Enjoy stretching and achieving the range of the joints
- Enjoy sitting on the floor
- Have come to sense and appreciate walking

THE MENTAL EFFECTS OF MY EXERCISE PROGRAM

- I discovered what it really means to “feel good”
- I look at virtually everything differently
- I learned hundreds of new things about my body
- I have dealt with some hard problems more successfully
- I see new insights into my work
- I am more courage
- My mind is clearer
- I know what it is to be relaxed
- Many things upset me less
- I have become aware of my impatience
- I can live with less
- I can enjoy my own company more
- I have learned to enjoy more simple things
- I have learned more about people
- I understand children much more
- I enjoy children more
- I can pay attention better
- I have a much better attitude towards others

THE JOY OF EXERCISE

I would like to close this section with a point that will certainly seem difficult to believe to those who have not practiced Falk's exercises. But I suggest that his view of exercise, of all of the theories, is the most likely to produce a sense of joy while doing the exercises themselves. I mean here, just what you might think is counter-intuitive. It is possible to enjoy exercises. There are professional skaters who truly enjoy skating. There are gymnasts who truly enjoy gymnastics. I suggest that it is possible for the average person to enjoy doing his or her exercises, especially if they are based on the views of Bernie Falk.

Sensing an exercise–doing it over and over again–builds familiarity. Doing more of that exercise over time builds strength, noticeable strength. It produces an awareness of the body, of things that happen in the mind as well as to the body. These effects become observable, and enjoyable.

Finally, the right exercise will always make one feel good. Just as a jogger knows the sense of relaxation that comes after a good jog, so too can ordinary exercise bring the same satisfaction. When you finish your exercises, your mind has been with them, you perhaps have achieved one or two new little things, the inner sense of well-being is clear. This sense of well-being is accessible to all.

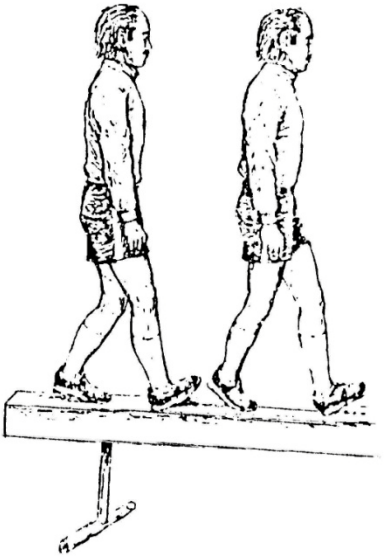
A Selection of Bernie Falk's Exercises

BALANCE BEAM

Purpose: To teach good walking habits. To develop balance and relax the eyes.

Approach: Use the same stride as for walking, emphasizing the heel, foot, toe movements (i.e. do not use a flat step).The timing and weight should be the same for both the legs, i.e. watch out for a one-sided walk. If comfortable, try to avoid looking at the feet. Keep the arms relaxed and down, just as for walking.

Notes: Bernie uses about a 16-inch high beam, and frankly, I was afraid at first. I also found it hard to do, but Bernie strongly recommended it. Using the beam for ten minutes is good.

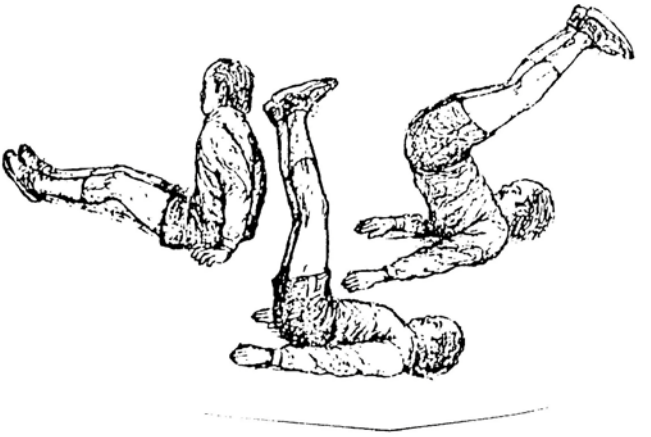


BACK ROCK

Purpose: To develop flexibility of the back and neck. To reduce fear of using the back. To prepare for tumbling exercises.

Approach: Simply roll back on the floor and bring the legs above the head. Go right back.

Notes: With my back and neck problems, there was a certain fear in doing this at first. There was pleasant feeling when I found out that it was harmless, and fun. 25 of these is nice, 50 better.



BICYCLE

Purpose: To strengthen the hips, thighs, abdomen, chest, and neck muscles. Making this exercise easy is a good challenge.

Position: This exercise can be done lying on the floor or sitting in a chair. In a chair, sit upright and shift hips slightly forward with shoulders against back of chair.

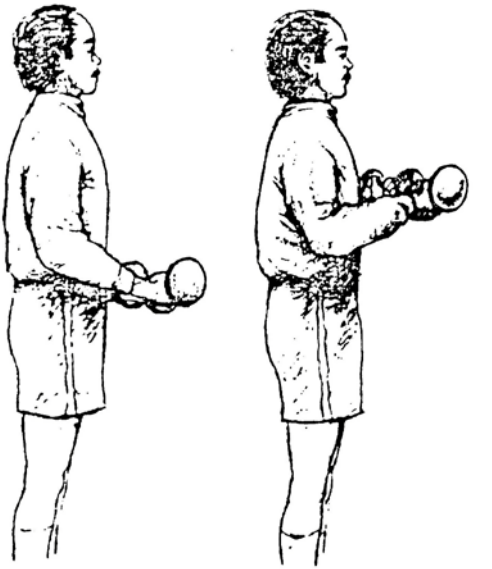
Approach: Lift both legs to a straight position off floor. Execute a double leg bicycle movement. Keep the knees up, approximately chest high.

CHEST CURLS

Purpose: To teach good position of the upper back. To strengthen the arms, chest, and upper back muscles.

Approach: The weights are raised from the waist up to the shoulders and back down. The weight of the body should be even on both legs and the knees flexed. The head should be level, the feet apart, the chest high, and the back straight. To get the idea, try Chest Curls with the back flat against the wall.

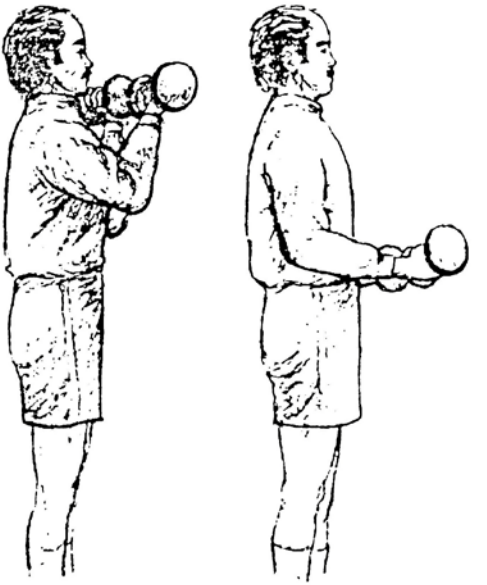
This exercise can also be done sitting.



Notes: Notice the straight position of the back, especially the upper back, needed to do the exercise. This exercise is designed to strengthen the muscles required to support the back in this position. After doing the curls, walk around and feel the lightness in the back.

You can use a bar like that used by the weightlifters or, if one is not handy, two hand-held dumbbell weights. I started by holding a total of 10 pounds and doing 50 curls. I worked up to 100 Chest Curls, holding a total of 20 pounds.

Your back will like this exercise. The object is not to become a weightlifter, but to exercise the upper back.



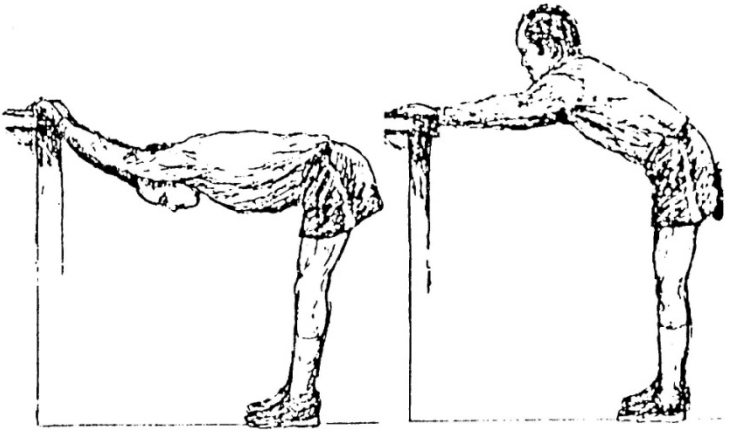
CHEST DROPS

Purpose: To give mild exercise to the back and neck.

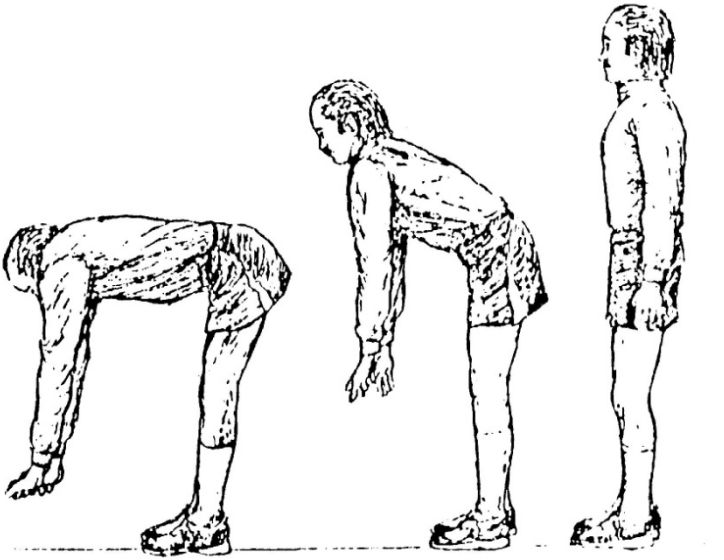
Approach: The hands hold on to the support with the upper body forward. The upper body is lowered to its limit and then raised to the starting position. The knees should be slightly flexed, the arms and hands loose (despite the illustration of the Full Chest Drops), the shoulders down.

Notes: 100 Chest Drop provides a nice relaxation when the back is tight. This exercise, like many others, can be done anywhere, for example, in the living room or waiting next to the car.

Simple Drops



Full Drops



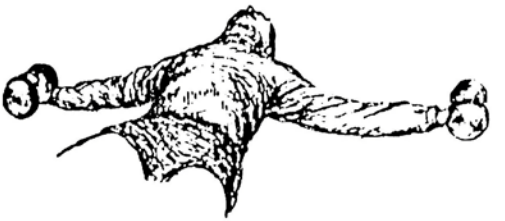
DUMBBELL LATERALS

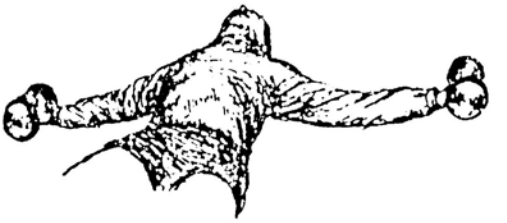
Purpose: To strengthen the chest and abdomen for carrying the back straight. To strengthen the upper back, shoulders, and neck.

Position: This exercise is done with the back, supported a bit off the floor, for example, lying on cushions on the floor or, better, lying on an incline board.

Approach: Start with the arms out, slowly raise the weights over the head, and return to the out position. Try to keep the back flat on the incline board or floor. The arms should always be kept slightly flexed. The head can be held up, dropped backwards, or periodically changed. Use the chest and abdomen, not the arms, for the strength to raise and lower the weights. The right motion is like a great big hug.

Notes: 50 to 200 Dumbbell Laterals are a good range. Start holding five-pound weights, working up to eight- or ten-pound weights. The head can be kept on the board (shown) or placed over the board (not shown). The latter version is much harder for me but gives the upper back and neck a real workout.





DUMBBELL SITUPS

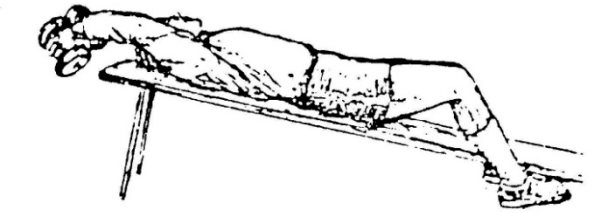
Purpose: To straighten and strengthen the back, neck, arms, and shoulders. To develop flexibility of the back and neck. To strengthen the abdomen.

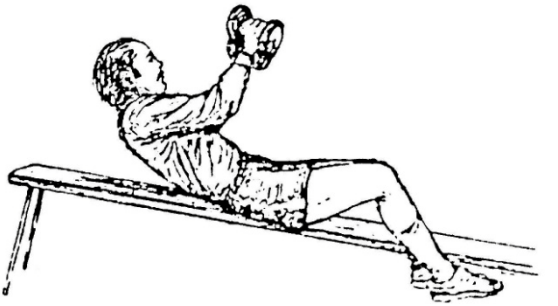
Approach: Hold a dumbbell weight from three to ten pounds in each hand. The key to this exercise is keeping the lower back flat on the board, especially when starting to rise. Use the abdomen and lower back to strengthen, not the arms. The arms should remain slightly flexed.

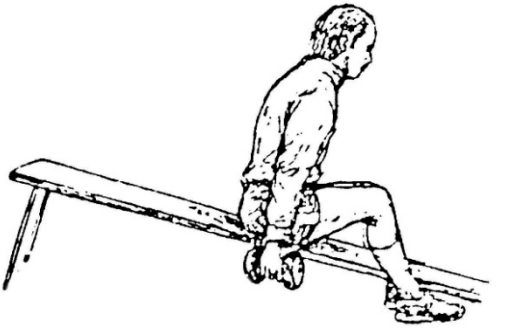
Notes: This is a wonderful exercise, with all kinds of variants. It is one of Bernie's central exercises. A slant board is ideal. It gives a basic upward lift and reduces the rather large effort to rise up.

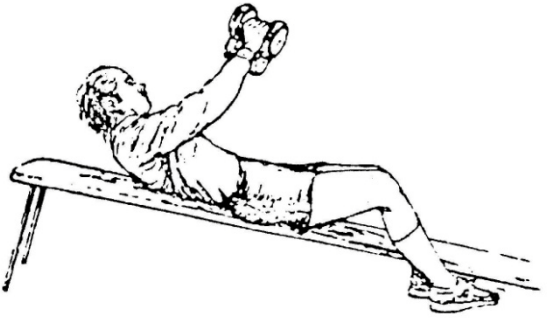
This exercise works on a great many areas. With the severity of my initial problem, Bernie gave me other exercises first. Nevertheless, when the time came, the Dumbbell Situps were a superb exercise.

50 Situps with five-pound weights were my starter, 200 with ten-pound weights my norm a year later. When I don't have an incline board, I used the floor, lying on firm cushions. If need be, take short breaks.







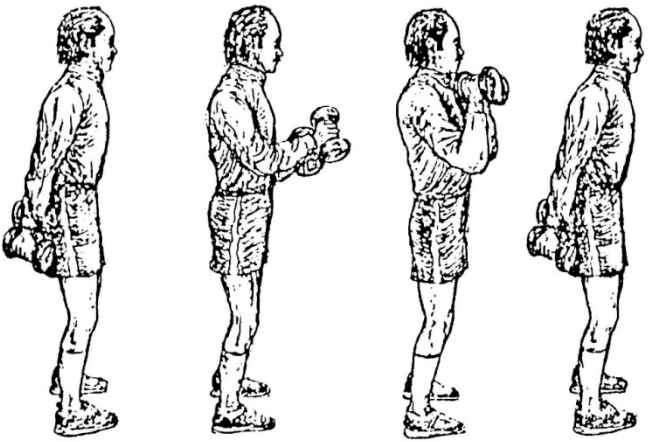


DUMBBELL SWINGS

Purpose: To teach what light shoulders feel like. To learn to keep the shoulders relaxed and down. To develop strength and flexibility of the shoulders.

Approach: The weights are swung repeatedly up and down. At the lowest position the arms are down and relaxed. The weights are swung upwards to a position just about the shoulders. Flex the knees as the weights swing upwards. The head should be level. The motion is a swing, not a lift.

Notes: This exercise tends to pull the shoulders down while giving them a good loosening. Start with a five-pound weight in each hand; if that is easy, use ten-pound weights. 50 swings are good, 200 better. A good upward flex of the knees gives the weights a stronger swing.



EYE BLINKING

Purpose: To strengthen the eye muscles and eventually relax the eyes by freeing blinking movement from eyebrow, forehead, cheeks, and other neighboring muscle movements.

Position: Stand or sit and blink the eyes 100 times.

Approach: Blink eyes slowly but continuously as many times as possible. It's difficult to attain 100 the first few times. Do sets of ten and gradually increase the number. Note the sparkle in your eyes after 100.

FORWARD BENDS

Position: Sit on floor with legs wide open and knees flexed.

Approach: Slowly reach forward, return to original position then reach again. Repeat. The long range goal is to touch the head to the floor with the legs straight.

Purpose: Strictly general body flexibility. Any limitation in this movement will restrict proper position, agility, and coordination in most other movements. In normal activities, we automatically develop and maintain a degree of strength and muscular tone, but we gradually lose flexibility. Flexibility is paramount and must be attended to daily in order to avoid the buildup of tension.

There will be some new feelings when the muscles tighten, but gradually stretch them. It will take time to achieve a full bend, but don't despair. The results are worth it.

FORWARD ROLLOVERS

Position: To develop balance and orientation. To give flexibility to the back, shoulders, and neck.

Approach: On the forward roll, the feet should be wide apart, and the head placed gently on the mat. The roll should be gentle and slow. A 2 or 3-inch mat is nice.

Notes: I was terrified of this exercise, and I still don't enjoy it. Bernie had prepared me (a little) by prescribing the Back Rock before, but when the time came, I was still full of fears.

Three rollovers were a lot for starters. I got dizzy or felt a slight stomach upset. When I could do 10 Rollovers, I was pleased. Children do these often – encourage them.

HEAD-HANDS SEQUENCING

Purpose: Simple method for sensing and seeking relaxation.

Position: Sit in chair.

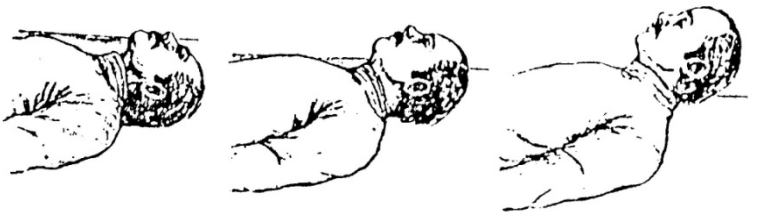
Approach: First practice turning head left, then right, then left etc. without moving shoulders. Next practice moving the hands and forearms up and down, free of shoulders and without disturbing other body parts. Then combine head and arm movement in a free, smooth, and rhythmical manner. You may wish to look in a mirror to see if what you feel is what you do. When you get it, you will know it.

HEAD LIFTS

Purpose: To strengthen the neck and abdomen.

My Instructions: The head is repeatedly lifted up from the floor. The body and arms should be relaxed.

Notes: This is a wonderful exercise. 50 to 200 Head Lifts is a good range.

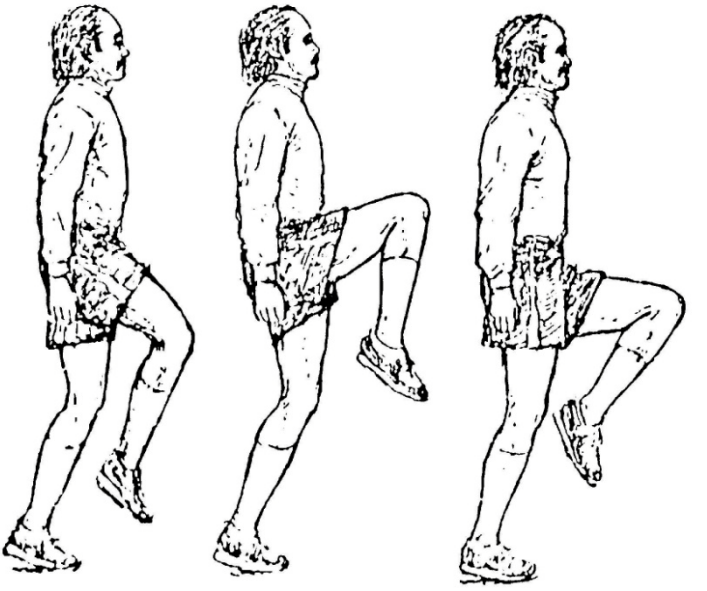


HIGH WALK

Purpose: To teach good upper back and neck position, develop balance when walking, and promote good action of the knees.

Approach: Walk forward, staying on the toes and raising the knees high. The back and head should be held level (or straightly up), the step even on both feet. The upper body should be relaxed.

Notes: 200 steps are a start. Try 1,000.



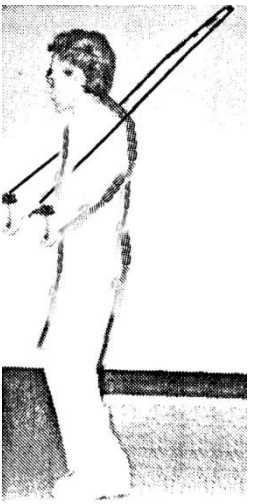
JUMP ROPE

Purpose: Develop endurance. Strengthen many parts of the body. Help learn how to walk.

Position: Stand erect but relaxed. Hold handles lightly and grasp with thumbnails toward ceiling. Feet flat on floor and rope looped back behind. With loop on floor behind, move hands in and together.

Approach: The first move is to swing it out and to the side in a circular fashion. This sudden movement is something like airplane wings. The arms remain in this lateral position through the swing and the flexed arm and stationary wrist create the needed momentum for the back swing.

A Reminder: The rope should feel as if you are jumping a hula hoop. The rope is connected to your hands and arms and actually is like a wheel. After the first jump the wrist should not move at all. Do not allow the wrist to circle. The slight tension is noted primarily in the shoulders and across the chest. Always keep arms flexed. The weight is always on the toes. Beginners jump. But actually we do not jump in this activity, we pounce! Much like pounding a post on cement.

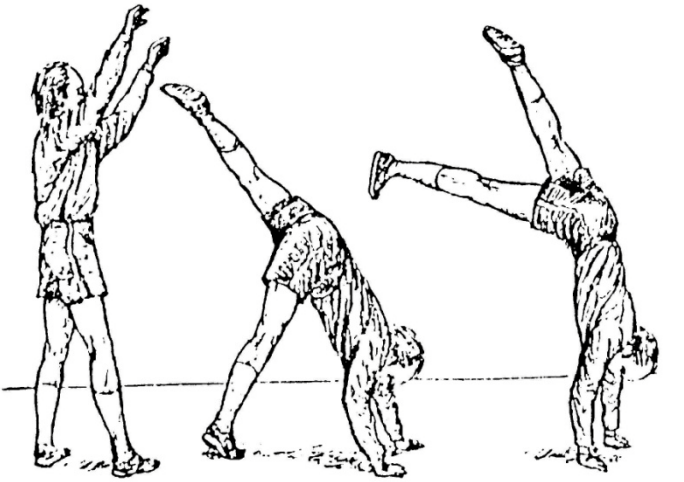


KICKUPS

Purpose: To strengthen the back, shoulders, arms, wrists, and fingers. To overcome fears. To develop a new body skill.

Approach: Stand facing a wall. Bend forward, put the hands on the floor, kick up the rear foot, and return. Right-handers should lean with the left leg and vice versa. The leading leg should be straight, bending from the hips not the knees. The hands should be somewhat wide apart. Do it near a wall.

Notes: With my back problem, this exercise gave me a sense of pride. I started with 20 simple Kickups. Bernie said not to worry if I could not go too high at first. In time, may be four months, it was easy to do a full Kickup against a wall.



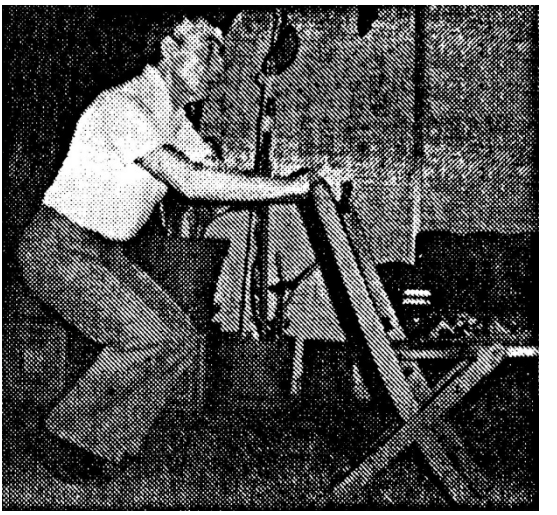
KNEE BENDS

Purpose: Strengthen the legs. Develop knee and hip flexibility.

Position: From standing position, place both hands on waist-high support with feet approximately shoulder width apart. The feet can be flat on the floor or the heels can be raised.

Approach: Slowly flex knees and lower body to half knee position, then return to standing position. Repeat.

Notes: This innocent-looking movement may be quite tiring at first. Start with 20 to 50 Knee Bends, later 100. The knees will like this exercise, and feel beautiful afterwards.

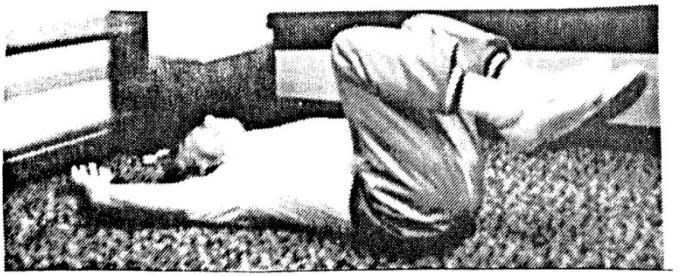


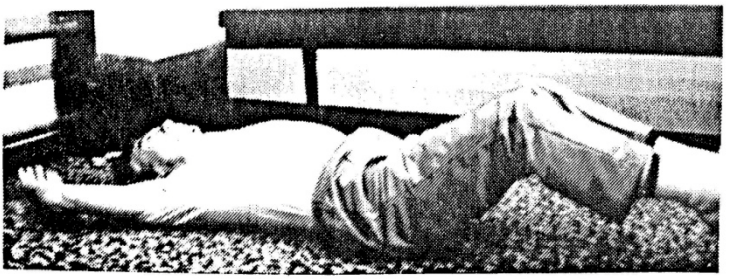
KNEE LIFTS

Purpose: To determine weakness of abdominal muscles and straighten thighs. The entire front of the body, even the neck and face, plays a part.

Position: Sit upright in chair or lie on the floor.

Approach: Lean backward, flex legs, and lift feet off floor approximately 12 to 15 inches. Lower feet and tap floor with toes, immediately lift knee again. Continue to tap toes and flex knees.



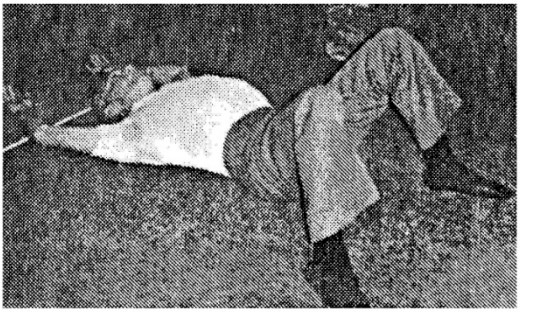


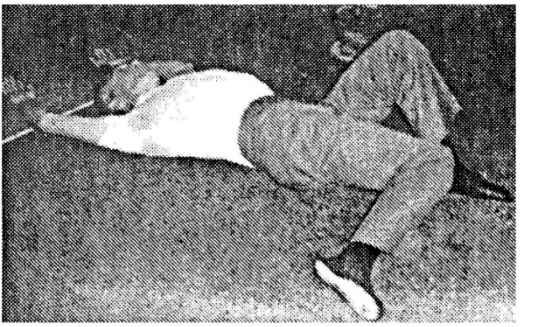
KNEE ROLLS

Purpose: For general body relaxation and flexibility.

Position: Lie on back with knees and arms relaxed in backwards position (above head).

Approach: Roll one knee in (or allow it to fall between the feet), raise the same knee and allow to fall again, etc. The abdomen should lift the relaxed knee and gravity does the fall (in part). Always do one knee at least 20 to 50 times. Then lift the used leg and sense the lightness and relaxation and most of all, this leg will feel much longer than the unused leg. Repeat for other knee.



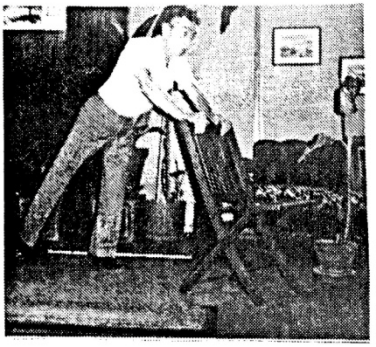


LEG EXTENSION

Purpose: To develop hip and thigh muscle. To develop flexibility and coordination of leg.

Position: Stand. Place both hands on waist high support, such as counter, desk, car, tree, etc. Put body at right angle, 3 feet from support. Extend one leg backwards and touch toes to floor lightly.

Approach: Pull extended leg up on flex position and lift it forward and as high as possible. Then extend leg backwards as far as possible.



LEG SWING

Purpose: To develop strength in hip of supporting leg, abdomen, and hip of winging leg.

Position: From standing position, place one hand on support such as a wall, chair, counter, etc., but do not lean on support.

Approach: Swing outside leg forward and backward. Note slight lift of hip of swinging leg and slight flexion of supporting leg.

LOW WALK

Purpose: Primary purpose is to learn, sense, and feel the weight on the feet, not the legs or back.

Position: Assume a squat position with knees well flexed.

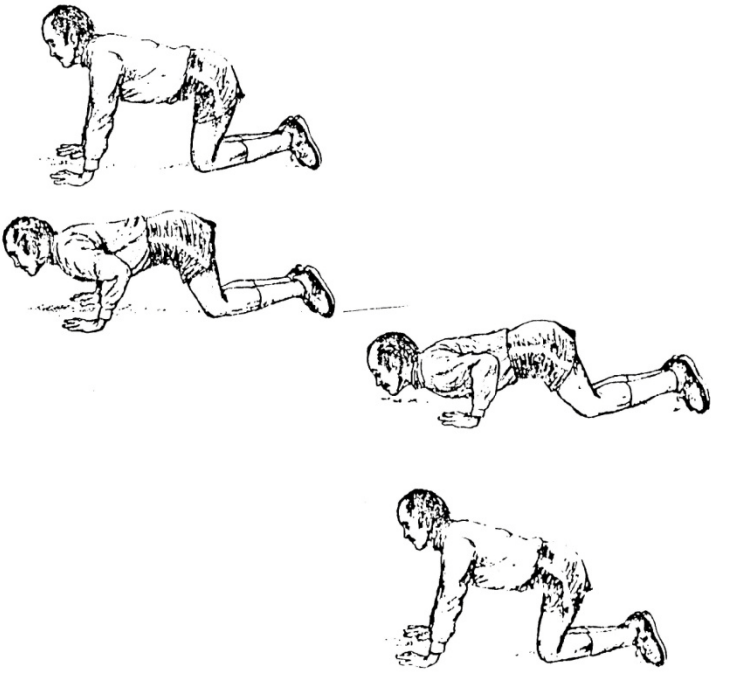
Approach: Lower head, relax back, and execute a low walk. With 50% of weight on heels, roll on outside of foot, then place 25% on four toes, and then 25% on big toe. The foot should roll from heel to outside to four toes to big toe. A smooth gradual foot roll prevents foot overload.

MODIFIED PUSHUPS

Purpose: To strengthen the neck, shoulders, and upper back. To teach equal use of the arms and shoulders.

Approach: The weight should be equally balanced on both knees and both arms. The neck and head are held up.

Notes: 20 of these are good for a warm up; 100 are a nice workout. Bernie advises against conventional pushups, where the legs are extended and the weight is supported on the feet (not the knees) and hands; the back is placed under too much stress.



PELVIC ROLLS

Purpose: General body relaxation and flexibility. Relief of back, upper leg, shoulder, and neck stress.

Position: Lie on back with knees up off floor and flexed. Keep the knees near the hips, arms resting back above the head, and shoulders down at all times (if possible).

Approach: Roll pelvic bone and flex from side to side. Eventually as you stretch the abdomen, it will move the flexed legs, and the shoulders will remain on the floor. As the legs roll one way, the head will naturally react and roll the opposite way.

ROCKER

Purpose: Lie on back with knees flexed.

Approach: With knees flexed and arm back over head, rock back and forth. Gradually learn to rock up to sitting position.

Purpose: Develop abdominal muscles and stretch back muscles. Become acquainted with the back. Improve spatial orientation.

ROCK UPS

Purpose: Sense how the orthopedic structure automatically manipulates and supports the body weight. The activation of these involuntary muscles are beyond our control. This exercise also develops feet and leg muscles, as well as teaches how to get in and out of a chair gracefully. Can you now imagine how much the body really weights?

Position: Sit in chair with hips and back touching the back of the chair; feet approximately 18 inches apart, flat on floor; arms relaxed on side.

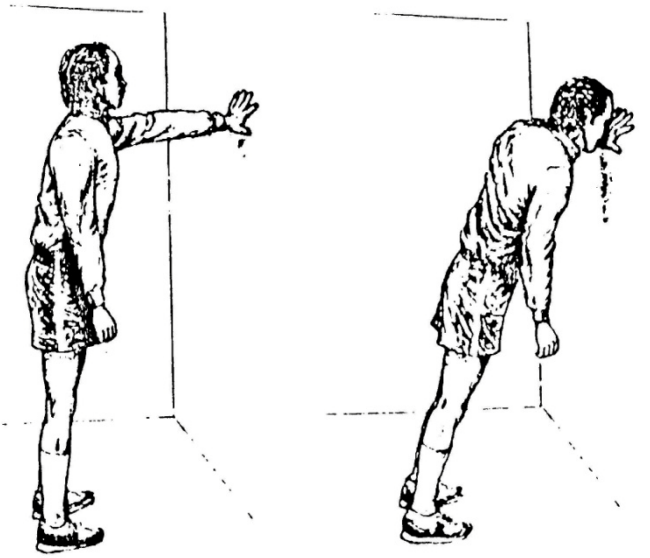
Approach: Thrust head and trunk down and forward over the knees until leg automatically straightens and forces the body to an effortless and natural standing position. Flex knees, sit, and rock up again. Repeat.

SINGLE HAND PUSHUPS

Purpose: To strengthen a weak shoulder.

Approach: Stand facing a support or a wall at arms length. The support can be from waist to chest high. Stand. Using the weak arm for the exercise, go forwards to the support and then back. The exercising arm should be flexed, the unused arm relaxed down, and the head up.

Notes: This exercise can be done almost anywhere. I find 20 easy, 100 impossible without breaks. A nice variant of this exercise, is “Pushups Against the Wall.” Like the Single Hand Pushups, the variant is done standing up, but the pushup is done with both hands against the wall.

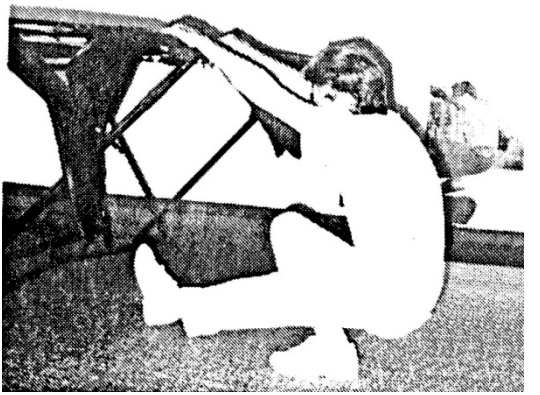


SINGLE KNEE BENDS

Purpose: To teach proper use of the knees. To strengthen and straighten a weak knee and become aware of using it.

Approach: Bend the knee as far forward as possible. Keep the feet parallel and the knee directly above the foot.

Notes: I had never thought about my knees. After all, I had a back problem, not a knee problem. No specialist had ever mentioned my knees. In one of my very early visits Bernie asked me to stand up, put my left leg forward, and flex the left knee forwards and down a number of times. I could barely do it. Then the same with my right knee. What a difference! This is a potent exercise just for a weak knee. It looks easy, but exercising a weak knee may be hard work. For me, 25 Left Knee Bends were difficult. My knees are still not at all equal, but I have made some real progress. The knee and leg will feel lighter after this exercise.



SINGLE LEG BICYCLE

Purpose: Learn to separate leg from body so to speak. To develop leg and abdominal muscles and coordination. When the foot separates from the leg, you will like how it feels. That is how the foot should feel when you walk.

Position: Sit upright in chair; shift hips slightly forward with shoulders against back of chair.

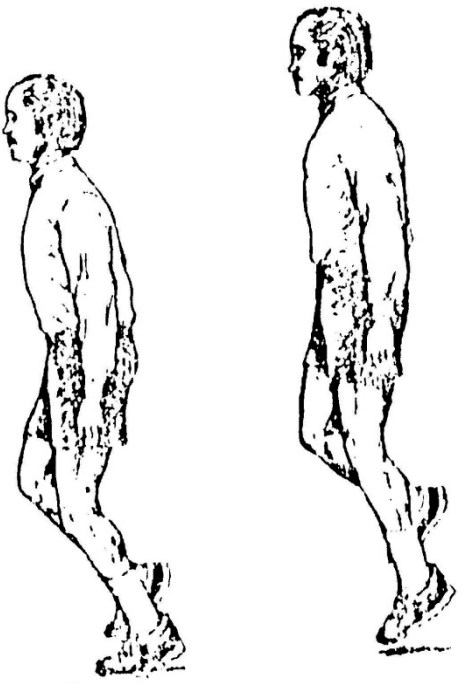
Approach: Extend one leg and execute bicycle movement. Move the leg effortlessly and smoothly without feeling it.

SINGLE LEG HOPS

Purpose: To teach balanced support for the upper body. To relax the shoulders. To strengthen a weak leg and become aware of using it.

Approach: Hop up and down on one leg. The upper body should become straight and relaxed; the arms and shoulders should be down and relaxed; the head level (or slightly up).

Notes: Try just a few for a start, building over time to 200, with short rests. When you finish, concentrate on how the leg feels.

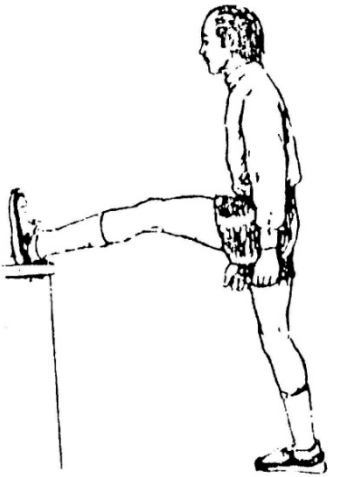


SINGLE LEG STRETCH

Purpose: To teach alignment of the feet and legs. To strengthen the upper leg and lower back. To loosen a tense leg.

Approach: Put the leg to be exercised on a raised object, for instance a table or counter top. Bend forward almost as far as possible. Hold and let the leg stretch out. When bending forwards, look forward, not down. The supporting leg should be slightly flexed.

Notes: This is a fine exercise. 1 to 50 bends is a good range.

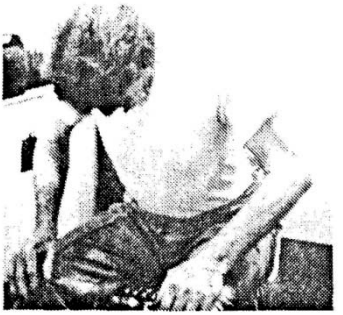


SITTING HEAD LIFTS

Purpose: Develop face and neck muscles and relax back muscles. Note subtle stretching sensation as it progresses downward on both sides of the spine.

Position: Sit in chair, legs and feet wide apart. Place hands on knees. Lean forward until head is out over the knees. Feel the pressure on the hands and knees.

Approach: Repeatedly lift head up and then down (or look at the ceiling then look at the floor). Gradually increase speed until you feel the stretch on the muscles.



SITTING LEG CROSS

Purpose: Learn to move legs in a relaxed smooth manner; develop leg and abdominal muscles.

Position: Sit upright in chair; extend legs out to a straight but relaxed position.

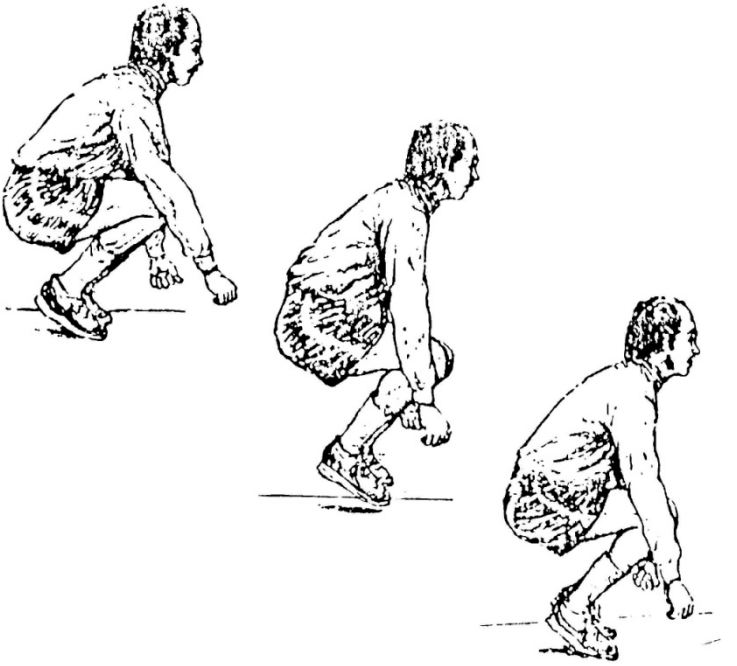
Approach: Gently cross the legs and ankles back and forth slowly, and gradually increase speed.

SQUAT JUMPS

Purpose: To teach straight positioning of the feet. To strengthen the knees, ankles, and the back of the legs.

Approach: Get in a squatting position and simply hop up and down. Keep the weight equally balanced on both feet, the shoulders down, and the arms relaxed. Look straight ahead.

Notes: Doing 20 Squat Jumps may be a workout at first. In time I scaled up to 50, and then 100. Walking feels good afterwards.

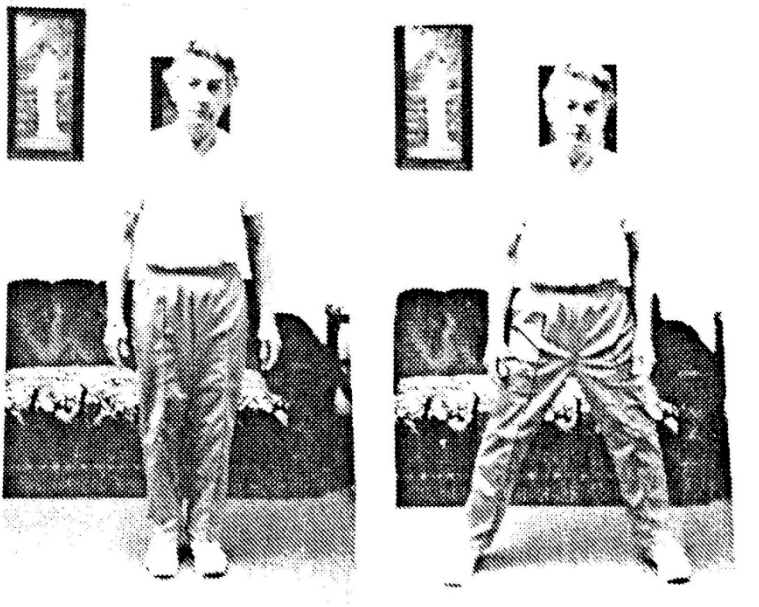


STRIDE JUMP

Purpose: Strengthen legs and hips. Develop cardiovascular system.

Position: Stand erect, with feet approximately 8 inches apart.

Approach: Jump and land with feet wide apart approximately 24 inches. Land on toes as feet move out and in.

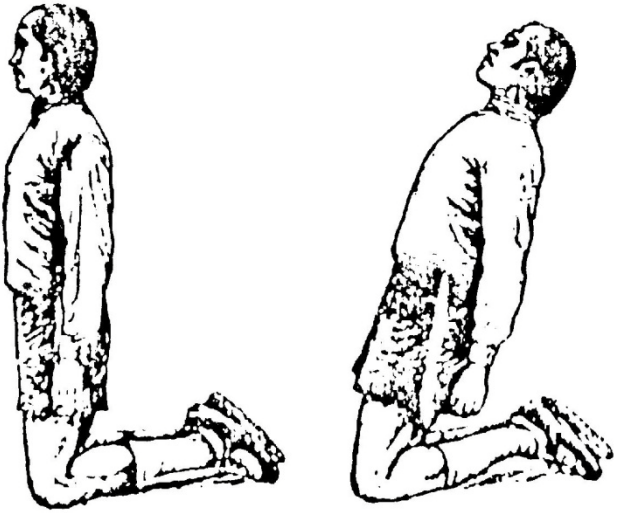


THIGH ROCK

Purpose: To teach correct position of the back and neck. To strengthen and straighten the upper legs, hips, back, and neck.

Approach: Start in a kneeling position, lean back, and return. The chest is stretched up (not arched backward), the head level over the shoulders. Try to keep the back and hips in a line. The weight should be even over both legs and knees.

Notes: At first I was afraid to go back as far as I could. 20 to 100 are a good number of repetitions.



TOE WALK

Purpose: To sense correct posture and how the orthopedic structure walks us. Strengthens the toes, ankles, legs, hips, abdomen, and back. To give one a sense of smoothness.

Position: Stand erect on tiptoes with knees flexed.

Approach: Walk on toes with flexed knees.

VISUAL TARGET PRACTICE

Purpose: Develop relaxed eye movements until extraneous muscles tire and allow eyes to move freely without tension and interference. Good for co-ordination. Doing 50 of these is nice. Doing 500, and paying attention, may give a sense of total relaxation.

Position: Sit up but relaxed in chair. Place feet apart and flat on floor.

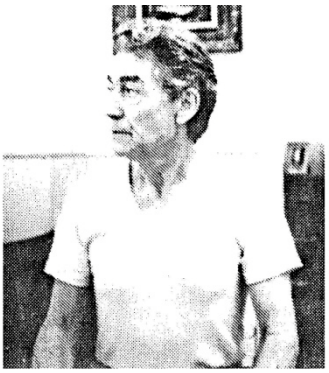
Approach: Slowly move eyes right, then left, then right, etc., without moving the eyebrows, lips, chin, and tongue. Note: these movements are subtle movements.

VISUAL TURN

Purpose: This stimulates the nerves and enhances relaxation.

Position: Sit in chair, assume relaxed posture.

Approach: Turn head and look at target on right, then on left, then on right, etc. Pause a few seconds and really look at each target. Feel the eyes leading and pulling the head toward target. Continue until movement becomes efficient, smooth, and without thought, i.e., automatic. Try to sense the legs relax or the head turn lighten. You cannot force it. Just wait for it to occur.



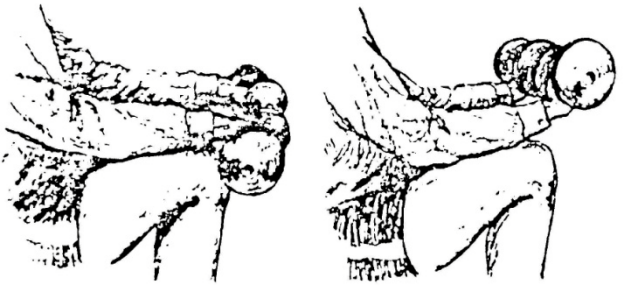
WRIST CURLS

Purpose: To strengthen the wrists and fingers.

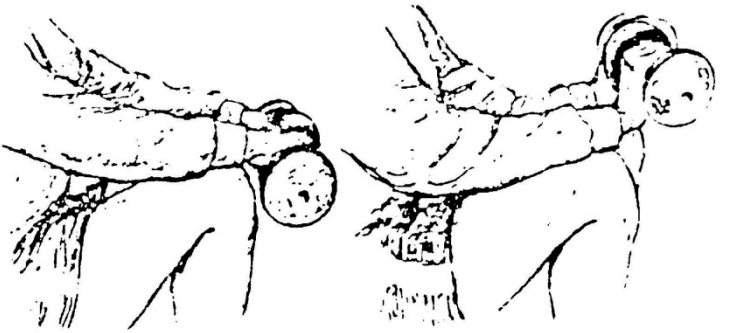
Approach: For the Up Curls, hold the weights in the hands and, using the wrists, arch the weights upwards as much as possible. The Down Curls are done in a reverse position. The Rotating Curls are different; the weights are rotated outward and then inward around the axis of the arm and wrist. Keep the shoulders down and relaxed, the lower arms resting on the legs and knees. The arms and elbows should remain quiet.

Notes: This exercise is deceptively easy, but it certainly put an end to my wrist and finger pain. Starting with five-pound weights and doing 20 curls was a workout at first. When I could do a hundred of each type of curl with ten-pound weights, I was sure my wrists and hands could server me in well. Start with three- or five-pound weights in each hand, doing 25 or 50 of each type of curl. Work up to eight- or ten-pound weights doing 100 of each type of curl.

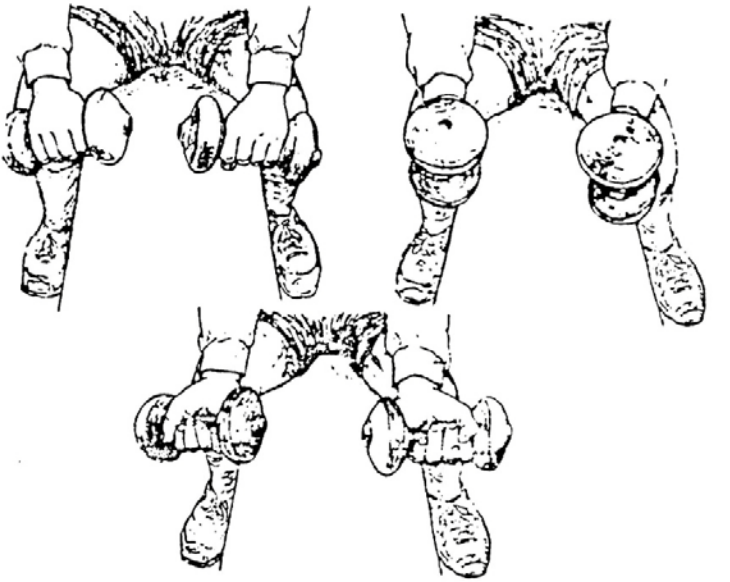
Up Curls



Down Curls



Rotating Curls



Towards A Theory of Exercise

by **HENRY LEDGARD**

based on the work of **BERNIE FALK**

Bernie Falk of Grosse Pointe Park, Michigan, has prescribed exercise for thousands of people, from babies to grandparents, from persons in serious pain to athletes. Mr. Falk has a profound theory of the central issues related to all exercises, based on one's everyday movement. His view is that beneficial movement is the centerpiece of any helpful exercise program.

Highlights

- Movement as a Basis for Exercise
- Need for Individual Programs
- Exercise that makes sense
- Why Exercise?

The Author

Henry Ledgard holds a Ph.D. in Computer Science from MIT. He has previously published several books on computers, with Addison-Wesley, Vintage/Random House, Springer-Verlag, and SRA.