



# Smart exercise GUIDE



*LifeFitness*

A sensible exercise program can change your life. But the key word is "sensible." You should know what you're doing and why you're doing it in order to stay healthy.

We at Life Fitness have a longstanding commitment to keeping the world healthy! As makers of the famous Lifecycle® Exercise Bike and a variety of fitness machines for health clubs and homes, we know the importance of regular exercise and how it can help you feel better, look better and live longer.

Welcome to the world of better health and fitness!

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# 1. WHY EXERCISE?

**B**eing healthy used to mean not getting sick. But today, being healthy means much more. It means a higher state of fitness, which some people call “wellness.” Wellness is an optimum state of health and well-being, which focuses on prevention rather than treatment. Living well means taking steps to prevent illness and to prolong and improve the quality of your life. Wellness also means balance among the physical, mental, social, intellectual and spiritual aspects of life.

While a balanced diet and a healthy lifestyle are essential to our wellness, exercise and physical fitness play a key role. In 1996, the U.S. Surgeon General's office released its first-ever *Surgeon General's Report on Physical Activity and Health*. According to the report, numerous studies have shown that exercise is one of the most powerful things you can do to improve your health and wellness.

“Physical inactivity is one of the biggest public health problems in the U.S.,” stated Steven N. Blair, P.E.D., Director of Research at the Cooper Institute for Aerobic Research in Dallas, Senior Editor of the *Surgeon General's Report on Physical Activity and Health* and a

member of the Life Fitness Academy. “It is clear that there are many health and functional benefits of participation in physical activity. Regular activity prevents the development of diseases such as high blood pressure, heart attacks, diabetes and colon cancer. In addition, people who exercise generally report enhanced moods, and older people can extend their function and also preserve independence by staying active.”

Discover the benefits of exercise for yourself. Within weeks, you'll notice that you are less tired, feel stronger, have more endurance and can accomplish more each day.

There are four major components of physical fitness — cardiovascular health, muscular strength and endurance, flexibility and body composition — and each plays an important role in improving the quality of your life. This guide presents training aspects of three of the components of physical fitness: cardiovascular training (to improve cardiovascular health), strength training (to improve muscular strength and endurance) and stretching (for greater flexibility). A combination of these three components will positively affect the fourth component (body composition).



The Surgeon General has determined that lack of physical activity is detrimental to your health.

## A Better Body ...

### **Increased Lung and Heart Efficiency:**

Just 20 minutes, three times a week of regular aerobic exercise can improve your cardiovascular system and make your heart stronger and more efficient.<sup>1</sup>

**Lower Blood Pressure:** Blood pressure may be reduced by regular cardiovascular exercise, which may also lower your risk of heart disease.<sup>2</sup>

**Efficient Weight Loss:** Regular aerobic and strength-training exercises can help you achieve and maintain optimal body weight by helping you burn more calories. Exercise also decreases fat stores and increases lean muscle tissue, enabling you to burn more calories, even while at rest!<sup>3</sup>

**Strong Bones:** Women who remain physically active into their later years are less likely to suffer from osteoporosis, which is a gradual weakening of the bones due to inactivity and insufficient calcium intake. Estrogen decrease at menopause is also a factor. Older women who begin a regular exercise program can slow down or, in some cases, reverse the effects of osteoporosis.<sup>4</sup>

**Healthy Skin:** Regular exercise increases blood flow to the skin and helps protect the skin from the damaging effects of the sun's ultraviolet rays.<sup>5</sup>

**Sexual Performance:** Regular exercisers report fewer incidents of sexual dysfunction, increased sexual desire and greater frequency.<sup>7</sup>

**Restful Sleep:** Those who exercise typically experience more continuous and restful sleep.<sup>9</sup>

**Longer, Better Life:** Recent studies show that exercise offsets some of the effects of the aging process. More importantly, exercise helps fight heart disease and other illnesses, thus improving the quality of your life. And greater endurance and strength may help you to live well longer.<sup>1</sup>

## ... A Better Mind

### **Enhanced Mental Performance and Cognitive Ability:**

Regular exercise helps keep you mentally sharp, allowing you to work more effectively while decreasing fatigue. People who exercise see improvements in reasoning, working memory, reaction time and vocabulary.<sup>1</sup>

## Know What To Expect

**Positive Outlook:** If you exercise, you'll tend to have more positive feelings about your health and be better equipped to deal with everyday stress.<sup>6</sup>

**Better Self-Image:** Regular exercise leads to improved self-esteem.<sup>8</sup>

**Reduced Anxiety:** Regular workouts can help reduce anxiety and alleviate mild to moderate depression.<sup>10</sup>

**Improved Intelligence:** Improved circulation from regular exercise is believed to increase the IQ in older adults.<sup>11</sup>

1 *American College of Sports Medicine, Guidelines for Exercise Testing and Prescriptions, 5th Edition, 2000.*

2 Porcari, J.P., Ward A., Morgan W., Mans M., Ebbeling C., Kline G., O'Hanley S., Rippe, J.M.: *The Effect of Walking on State Anxiety Pressures, ACSM, 1988.*

3 Rippe, J.M.: *The Exercise Exchange Program, 1992.*

4 Goldberg, A.P. and Hogberg, J.M.: *The Handbook of the Biology of Aging, 3rd Edition, 1990.*

5 *Running and Fit News: Environmental Nutrition, 1988.*

6 *American Health: Taking Charge, The Happy Health Confidants, 1987.*

7 *The Physician and Sports Medicine, 1993.*

8 *American Orthopedic Society for Sports Medicine: Conference on Strength Training and the Prepubescent, 1988.*

9 *Running and Fit News, 1988.*

10 *The Exercise Prescription for Depression and Anxiety, 1989.*

11 *Bortz W.: We Live Too Short and Die Too Long, 1991.*

Before beginning an exercise program, it is advised that you consult your personal physician. Life Fitness recommends that medical clearance be obtained, especially if you have a major risk factor for coronary disease, such as high blood pressure, diabetes, obesity, cigarette smoking or a family history of heart disease.

If you haven't exercised in a while, the first thing you need to expect is some mild soreness. This happens because muscles and tendons are pushed to their current limits. Don't push yourself too hard, and allow yourself enough recovery time; the soreness will go away. Proper warm-up and cool-downs can also help eliminate soreness.

The most common mistake exercisers make is to overdo it, sometimes referred to as "overtraining." If you experience moderate to severe soreness, especially around the joints, give yourself a few days of rest, then start again at half the intensity.

Once your body adjusts, the good news is that you'll feel TERRIFIC, and that will carry over into other parts of your life. Pretty soon, you'll find yourself looking forward to your workouts.

## 2. GETTING FIT!

**H**ere's the bottom line: exercise must be fun, or else you won't stick with it. One way to keep exercise fun is to exercise as safely and effectively as possible. Few things will destroy your enthusiasm as quickly as a nagging injury. Exercise right and you're much more likely to stick with it — and see results that last.

Remember to warm up and cool down whenever you exercise. Warming up is important to bring your body from its normal level of activity to a state of exercise readiness by increasing blood flow to muscles, to raise muscle temperatures (to increase muscle elasticity and to protect joints) and to mentally prepare, or “psych yourself up.”

Warm up by performing some cardiovascular activity, such as riding a Lifecycle® Exercise Bike, using a Life Fitness stairclimber, treadmill or cross-trainer for at least five minutes. Warm-ups should be done at a very low intensity in order to prepare your body for exercise.

Conversely, cool down after exercise by decreasing your activity level, such as decreasing the resistance level on any Life Fitness cardiovascular exercise machine, to help your cardiovascular system gradually return to its normal level. Follow with stretching the major muscle groups for at least 10 minutes using static movements — do not bounce.

When you exercise, start at an appropriate level and exercise at the proper intensity by staying within your target heart rate zone (more on target heart rate later).

To determine your appropriate cardiovascular exercise routine, think **FIT** — an acronym for Frequency, Intensity and Time — the key components of a successful personal exercise plan:

**Frequency:** Frequency refers to how many times you work out each week. If your objective is simply to improve your cardiovascular fitness, you should exercise at least three times a week with no more than two days between workouts.

Keep in mind that rest is important. Even after you have settled into a consistent cardiovascular workout routine, you should not work out more than five times a week. Your body needs time to recover after exercise. In fact, it is between workouts that our bodies adapt to the new training routine. Increasing frequency yields little additional cardiovascular improvement and increases the risk of muscle strain and injury. Try to perform cardiovascular exercise every other day so you'll have a day's rest between workouts.

**Intensity:** Intensity refers to how hard you work your heart and how hard you feel that you are working. Each of us has a theoretical maximum heart rate, which sounds complicated but is easily estimated: 220 minus your age. If you're healthy, you should exercise

at 55% to 90% of your maximum heart rate (see chart on page 10).

The Rate of Perceived Exertion (RPE) is another indicator of exercise intensity along with heart rate. You are asked to rate how you feel on a numeric scale in relation to your level of exertion. (see chart on page 9).

**Time:** Time refers to the number of minutes you spend exercising in each workout session. To maximize the benefits of your workout program, it is important that you exercise for at least 20 minutes per session to achieve cardiovascular goals and more than 20 minutes for body fat goals.

Time and intensity work very closely together and are related to your current fitness level. If your fitness level is low, your intensity should be low. If you set your intensity too high, you won't be able to exercise as long.

## Get Fit!

### 3 keys to exercise success

Here are the components of a successful cardiovascular exercise program:

#### **Frequency:**

For the most benefit, exercise at least three times a week, with a day's rest between workouts.

#### **Intensity:**

If you're healthy, exercise at 55% to 90% of your maximum heart rate.

#### **Time:**

To achieve benefits, work out for at least 20 minutes per exercise session.

*NOTE: If you're a beginner or out of shape, remember to start at a lower FIT level and progress gradually for best results.*

## 3. CARDIOVASCULAR TRAINING

There are four major components of physical fitness — cardiovascular endurance, muscular strength and endurance, flexibility and body composition. While each element is important, the most vital is cardiovascular endurance, which is improved by cardiovascular training. Cardiovascular training is a rhythmic activity that uses large muscle groups, elevates the heart rate and increases the uptake of oxygen over an extended period of time. Some examples of cardiovascular exercise include walking/running, cycling, stairclimbing, rowing, swimming and group exercise classes (aerobics).

Whichever activity you choose, how hard you work out depends on your goals and your current level of physical fitness. It is important that you design a workout that suits you because if you don't enjoy it, you won't stick with it. There are two basic types of cardiovascular training: interval training and steady-state training.

### Interval Training

Life Fitness cardiovascular machines are known throughout the fitness industry for their premier delivery of interval training. Our computerized

interval training programs have been scientifically proven to yield greater cardiovascular improvement than steady-state training. Interval training also helps people work toward levels of higher intensity by giving them a sampling of more intense work loads. A gradual introduction to the next level provides variety to fend off boredom.

Interval training, a feature of our Hill profile and Random programs, provides a high-effort, cardiovascular workout separated by regular intervals of low-intensity exercise. The programs are designed to increase and decrease your heart rate between the high and low ends of your target heart rate zone by varying the work load throughout the exercise session. It is important, however, to monitor your heart rate during the program to assure "proper" levels of intensity. In all Life Fitness programs you can also change the levels of intensity during your workout by simply pressing the appropriate keys. Heart Rate Zone Training® programs also can be used for interval training by toggling between Fat Burn (Low Intensity) and Cardio (High Intensity) programs.

Interval training is extremely popular with everyone, from elite athletes who depend on power and speed for optimum performance, to patients recovering from a medical condition who need the physical activity to quicken their recovery.

## Steady-State Training

Some people prefer steady-state training which keeps the workload constant throughout their exercise session. Our Manual program, available on every Life Fitness exercise machine, provides a steady, fixed-rate workout.

You can create your own customized exercise programs using our Manual program by simply changing effort levels or speeds during the course of your workout. If, for medical or physiological reasons, you have been advised to maintain a steady heart rate while exercising, you should select our Fat Burn, Cardio or Manual programs. It is easier to maintain a consistent heart rate using these programs than with our Hill or Random programs.

## Cardiovascular Training Tips

No two people are exactly alike, so no two personal exercise plans should be identical. People vary widely in their health, goals, motivation, age, physical condition, exercise experience and time constraints. All your personal factors are probably very different from your neighbor's or best friend's.

The following general guidelines will help you to develop your personal exercise plan. Remember, you are your own best coach. You know your limitations and expectations better than anyone.

The American College of Sports Medicine and the American Medical Association have established medical screening guidelines for exercise. We recommend that you consider the start of your exercise plan as an appropriate time to see your physician.

**Decide On Your Goals:** Before you do anything else, you need to decide on your main goal. Is it weight loss? Do you want improved cardiovascular endurance? Are you training for an event? Do you want to reduce your risk of heart disease? It is important to have goals so you can focus on a direction and a type of exercise plan that's right for you. For example, someone whose main objective is weight loss may focus on different aspects of exercise than someone whose goal is reducing the risk of heart disease. And both will train differently from a competitive athlete preparing for a sporting event.

People typically participate in aerobic exercise for two main reasons: weight loss and improved cardiovascular performance. Varying the frequency, intensity and duration of your workouts changes the focus from one to the other. Higher intensity aerobic exercise for shorter periods of time (15 to 30 minutes) is the best way to promote cardiovascular improvement. Exercising for longer durations (more than 30 minutes) within your target heart rate zone promotes increased fat loss (low-end of zone for beginners and high-end for more advanced users).

### Heart Rate Zone Training® Exercise:

To reach your goal — whether it's to lose body fat or improve cardiovascular fitness level — it is important that you exercise at the correct level of intensity. Exercising too hard or not hard enough are both ineffective. Exercise too hard and your body won't be able to recover or adapt

between sessions. You'll end up burning out and abandoning exercise. On the other hand, if you don't exercise hard enough, you won't get the results you want. For an effective workout, determine your target heart rate zone and remain within it while you exercise.

## Know Your Heart Rate

### How to determine it

▶ To determine your target heart rate, first find your theoretical maximum heart rate by subtracting your age from 220:

$$220 - (\text{your age}) = \text{theoretical maximum heart rate (beats per minute)}$$

▶ Next, take 55% and 90% of that number (multiply by .55 and .9). The results are the upper and lower limits of your heart rate training zone. While you are exercising, your heart beats per minute should fall within this range.

For example, if you are 35 years old:

$$220 - 35 = 185 \text{ (theoretical maximum heart rate, beats per minute)}$$

$$185 \times .55 = 102 \text{ beats per min. (lower limit of Fat Burn zone)}$$

$$185 \times .9 = 167 \text{ beats per min. (upper limit of Cardiovascular zone)}$$

So, when you exercise, you should work out at an intensity that keeps your heart rate between 102 and 167 beats per minute.

## Measure Your (RPE)

### Rate of Perceived Exertion

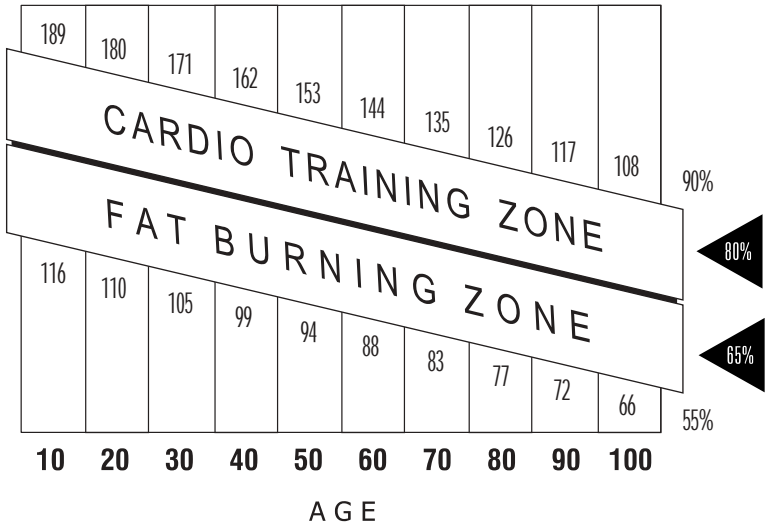
#### Original Scale

6		14
7	Very, very light	15 Hard
8		16
9	Very light	17 Very hard
10		18
11	Fairly light	19 Very, very hard
12		20
13	Somewhat hard	

#### New Rating Scale

0	Nothing	6
0.5	Very, very light (Just noticeable)	7 Very heavy
1	Very light	8
2	Light (Weak)	9
3	Moderate	10 Very, very hard (Almost max)
4	Somewhat hard	
5	Heavy (Strong)	

HEART RATE  
♥



## Checking Your Pulse Manually:

For optimal aerobic training benefits, you should stay within your target heart rate zone when exercising. To do this, you should check your pulse regularly during your workout.

Ideally, we suggest that you use a Life Fitness product equipped with our exclusive Lifepulse™ sensors or a Polar® telemetry chest strap, but you also can check your pulse with your two fingers. Your pulse can be monitored in two locations: (1) on one side of your neck, next to the Adam's apple beneath the chin (carotid artery) or (2) on the thumb side of the inside of your wrist (radial

artery). To take your pulse, hold your index and middle finger together and press lightly against either site (the neck site is generally easier during exercise). Make sure that you do not press too hard, especially when taking a neck pulse. Excessive pressure can reduce blood flow and cause the heart to slow down. You should take your pulse about 10 minutes into your workout and at regular intervals throughout your workout.

Adjust your intensity to keep within your target heart rate zone, or use the interactive heart rate programs on your exercise machine to adjust the intensity automatically.

Take a 15-second pulse check during exercise. Once you have calculated your target heart rate zone in beats per minute, divide each number (upper and lower heart rates) by 4 to get a value per 15 seconds. Memorize these numbers so that you don't have to do calculations during your workout.

When taking your pulse, be sure to keep moving. Your heart rate remains at exercise pace for approximately 15 seconds after you stop before it begins to recover. Sudden stops during intense exercise can cause dizziness, fainting or even nausea. By making sure your heart rate stays within your target zone during your workout, you will achieve maximum training benefits while minimizing stress to your cardiovascular system. As your fitness program progresses, your aerobic capacity will build and your body will begin to show benefits of what is referred to by fitness experts as the "training effect."

**Interactive Heart Rate Zone Training® Programs:**

Life Fitness takes all the guesswork out of your workouts! All of our Lifecycle® Exercise Bikes, Life Fitness Treadmills, Life Fitness Cross-Trainers and Life Fitness Stairclimbers feature either the Lifepulse™ digital heart rate



monitoring system or Polar®-compatible telemetry to measure your heart rate with nearly the accuracy of a clinical EKG, and keep you within your training heart rate zone — automatically!

It works like this: your Life Fitness exercise machine offers interactive heart rate Zone Training® programs, Fat Burn and Cardio, that will determine your target heart rate for you based on your age. The Fat Burn is a low intensity program designed to keep you at 65% of your maximum heart rate. The cardio is a high intensity program designed to keep you at 80% of your maximum heart rate.

Then, once you begin exercising, while monitoring your heart rate the equipment automatically adjusts its level of resistance to keep your heart rate at the proper level. Overtraining and undertraining are minimized. Any of the Life Fitness family of cardiovascular exercise machines — Lifecycle® Exercise Bikes, Life Fitness Treadmills, Cross-Trainers and Stairclimbers — are ideal for helping you achieve your fitness goals!

The following list of exercises and activities also will help you achieve your objectives: swimming, walking, jogging, cycling, rowing, cross-country skiing, group exercise classes and in-line skating.

**Important Considerations:** If you're a novice exerciser with a low level of fitness, use a heart rate training zone of no greater than 60–75% of your theoretical maximum for the first several weeks of your new exercise program. In fact, you might have to start at or below 50% and work up gradually as tolerated. As your fitness level improves, recalculate your heart rate zone to 70–85% as long as you can maintain that intensity for a minimum of 20 minutes. As mentioned earlier, to optimize fat loss, the duration of your workout should be at least 20 minutes. In order to have the endurance to

exercise for that length of time, a lower intensity of 60–75% is more appropriate so that you don't fatigue and quit early. As your fitness level improves, however, it is still important to increase intensity as long as you can maintain it for the duration of your workout. Remember, the key to fat loss is exercising at least four times per week for a minimum of 20 minutes each workout and maintaining a sound and healthy diet with controlled calorie intake.



# 4.

## STRENGTH TRAINING

**R**egular strength (anaerobic) training helps to build strength, muscular endurance and flexibility, reduce body fat, control weight, increase muscle mass, improve appearance and improve function. Strength training in combination with stretching also helps lower the risk of injury to muscles, ligaments and tendons and helps prevent chronic lower back pain. Properly conditioned muscles are essential to carrying out the activities of daily living and help safe performance in sports and aerobic conditioning programs.

This doesn't mean you have to train like a professional bodybuilder to improve your physical fitness. Just adopt a program that exercises the major muscle groups at a slow or moderate pace with no explosive or jerky movements. Use these simple guidelines:

- Work out at least two times a week.
- Include six to eight exercises that train major muscle groups.
- Perform one to three sets of at least eight to 12 repetitions of each exercise.

### Strength Training Tips

In order to achieve the maximum benefits and to train effectively and safely, always observe these principles and techniques:

**Warm-Up and Cool-Down:** This cannot be stressed enough. Many workout-related injuries can be avoided by proper warm-up and cool-down. Your muscles need a five- to 15-minute warm-up, as well as a brief cool-down. Remember: this holds true for non-strength-training workouts, too!

**Start at the Appropriate Level:** If you begin strength training at too high a level, you risk serious injury. You will also develop poor form, which will hinder your efforts and discourage you. Use this as a guideline: if you cannot lift the weight eight times with proper form, the weight is too heavy. Similarly, don't choose too light a weight; the last two-three repetitions of your set should be difficult.

**Proper Technique:** To get the most out of strength training and to reduce the chance of injury, use proper lifting techniques. These include working your muscles through their full range of motion (but not locking any joints), lifting at a speed at which you can control the weight and easily stopping if necessary and maintaining good posture.

**Exercise Large Muscles First:** You should work your large muscle groups first — your chest, back, and legs — before you exercise your biceps, triceps and smaller muscle groups. Consider your body a big chain. Work whole sections of the chain before focusing on individual links.

**Progress Gradually:** Increase reps before increasing resistance. Reduce rest intervals between sets to increase intensity.

**Breathe Correctly:** Exhale at the moment of highest effort. Never hold your breath.

**Challenge Your Muscles:** All strength training should progress gradually, using increases in weight until your goals or a plateau are reached. Then, change your workout to include increased reps with a higher weight at the end of a set, alter the order of your exercises, perform multiple sets or different exercises, etc., to maintain results or reach new goals.

**Give Your Muscles a Rest:** You'll get the most out of strength training if you give your muscles at least 48 hours rest between strength training workouts to recover and rebuild.

**Risk Should Not Exceed Benefit:** If the risk of a specific exercise exceeds its potential benefit, it is better to stay on the conservative side. There are several ways to work specific muscle groups. Choose those that provide minimal risk. Ask a fitness professional for guidance.



# 5.

## STRETCHING

Stretching is perhaps the most neglected element of physical conditioning. That's probably because people do not associate flexibility with the more glamorous aspects of exercise — speed, strength and a lean body. In addition to just making you feel good, stretching promotes flexibility, is believed to decrease risk of injury and keeps the body functional. And without significant flexibility, real gains in fitness are difficult to achieve and maintain.

Limber joints and muscles provide the freedom of motion that makes exercise easier and more enjoyable. Most important, optimal muscle and joint flexibility are believed to significantly reduce the risk of injury to muscles, tendons and ligaments and help to prevent chronic back pain and stiffness. Stretching helps people of all ages and fitness levels safely maintain a regular program of cardiovascular and strength training. Moreover, it helps to develop body awareness and contributes to your well-being by acting as an excellent stress management technique.

### Stretching Exercises

When stretching, remember to warm up first, then move slowly into a stretch until you feel resistance — not pain (once this feeling of tension subsides, you can increase the stretch until the resistance returns). Hold that position and breathe deeply and slowly for at least 20 seconds. Be sure to stretch both sides of your body and never hold your breath.

## Stretching Tips

Stretching is a special discipline that requires relaxation, concentration and patience for best results. Follow these tips and practice each stretch shown in the following illustrations for at least 20 seconds at least two to three times a week for 10–15 minutes per session. You will progress safely and surely.

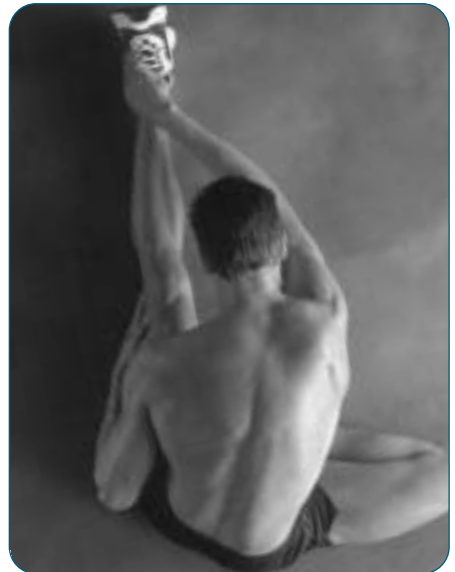
**Warm-Up:** You should always do a brief warm-up before stretching to increase blood flow, raise muscle temperature and protect joints. Stretching while “cold” may result in injury to the muscles, tendons and ligaments. For example, walking on a treadmill for five to ten minutes is an appropriate warm-up.

**Stretch Slowly — Take Your Time:** Move in and out of your stretches with slow, controlled motions. Hold the stretch for at least 20 seconds when you have reached a comfortable point. Fast and bouncy motions can increase the risk of injury. Concentrate on the body part you are working on. Close your eyes and imagine your muscles loosening slowly and gradually.

**Pain ≠ Gain:** If there is any pain, stop. Stretch gradually to the point of feeling resistance, but never to the point of pain. Never use muscular effort to increase a stretch. The gentle force of gravity and your body weight will determine the limits of your safe, effective stretching zone.

**Breathe:** Learn to breathe from your diaphragm. Your stomach, not your rib cage and shoulders, should rise and fall with each breath. Abdominal breathing encourages relaxation, lessens muscular tension and helps lower blood pressure.

**Where to Start:** Begin by stretching the major muscle groups first, then pay special attention to the muscles you most often use for your particular activity. Become used to stretching regularly and to stretching both sides of your body.



### **Pre- and Post-Workout Stretches:**

Whenever you stretch to prepare for exercise, always do it after your cardiovascular warm-up. Always stretch after exercise as well to promote circulation, flexibility and minimize stiffness. Stretching after exercise is the ideal time because muscles are warm. It is also a perfect time to incorporate relaxation and stress management.

**In Case of Injury:** Stretching, as well as cardiovascular or strength training, should be avoided after most injuries. Mild stretching should be incorporated as part of rehabilitation, only after an acute injury has healed and your range of motion has returned.

**It's Not a Competition:** Don't become discouraged because you're not as flexible as others. Flexibility varies greatly from person to person. It may take a while for you to notice an improvement, but you will improve! Stick with it and enjoy it at your own pace.

**Dress Comfortably:** Wear loose-fitting, soft-fabric clothes without restrictive belts, elastic, large buttons, buckles or tight knees. Dress warmly enough and lie on a mat or other soft surface. Choose breathable cotton or softly woven wool instead of synthetic fibers.

**When Should You Stretch?** You can stretch in the morning before the day starts. At work, you can release nervous tension with stretching. Stretch after sitting or standing for long periods of time. Also, stretching can be done at odd times during the day (e.g., while watching TV or listening to music). **Remember, don't stretch cold muscles to their maximum.** Even a short rhythmic warm-up is better than nothing.



## Upper Body

**Shoulders and Chest:** In a standing or sitting position, interlace fingers above your head. Now, with palms facing upward, stretch arms slightly up and back. Do not hold your breath while doing this stretch!

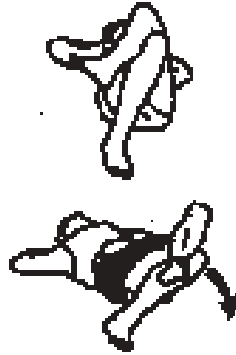
The next stretch is done with fingers interlaced behind your back. With palms facing outward, stretch your arms back and up. Make sure that you do not bend your upper body forward. Keep your back straight.



With arms overhead, hold elbow of right arm with left hand. Keeping knees slightly bent, gently pull your right elbow behind your head. Hold this stretch for at least 20 seconds. Bend your hips to the left side when the first tension has subsided. Open your feet while standing to get better balance. This exercise also stretches the side of your upper body.

**Shoulders and Upper Back:** Place both hands shoulder width apart on a fence or ledge, then let your upper body drop down as you keep your knees slightly bent. Your hips should be directly above your feet. To get a more complete stretch, bend your knees a bit more and/or place your hands at different heights. Make sure to bend your knees enough to keep your back straight.

**Lower Back and Hamstrings:** From a bent knee position, interlace your fingers behind your head and lift your left leg over the right. Use your left leg to gently push the right leg toward the floor until you feel a stretch along the side of your hip and lower back. Keep upper back, shoulders and elbows flat on the floor. Stretch within your limits; you do not have to touch the floor with your right knee. Relax and stretch the other side.



Sit with your right leg straight. Put your left foot outside of your right knee with the left knee bent. Bend your right elbow and rest it on the outside of your upper left thigh just above your knee. During the stretch, use your elbow to keep this leg stationary with controlled pressure to the inside. Now, with left hand resting behind you, slowly turn your head to look over your left shoulder. At the same time rotate your upper body toward your left hand and arm.



## Legs

**Back of Thighs:** Lie on your back and straighten both legs and relax. Then pull your left leg toward your chest by interlacing your hands above your left knee; keep the back of your head on the floor. Hold the stretch while feeling a slight tension in the back of your thigh. Repeat by pulling your right leg toward your chest.





While sitting, straighten your right leg. Rest the sole of your left foot against the inside of your straightened right leg. Then lean slightly forward from your hips while looking straight ahead and stretch the back of your right thigh. Don't try to touch your toes but keep your back straight leaning forward. Keep your right foot upright with your ankle and your right leg relaxed (it can even be slightly bent).

**Inner Thighs:** Put the soles of your feet together with your heels at a comfortable distance from your groin. Now, put your hands around your feet and slowly pull yourself forward until you feel an easy stretch in the groin. Bend forward from your hips and not from your shoulders — keep your back straight!



**Front of Thighs:** While standing straight or lying face down on the floor, bend your right leg and hold the top of your foot with your right hand. Pull gently. Keep standing straight while stretching with your right knee pointing to the floor. Relax your thigh muscles.



**Calves:** Stand a little way from a solid support and lean on it with your forearms. Next, bend your left leg and place your left foot on the ground in front of you, leaving your right leg straight. Slowly move your hips forward until you feel a stretch in the calf of your right leg. Be sure to keep your right heel on the floor, toes pointed forward. Put your weight on your left foot to stretch effectively. Repeat with the other leg.



# 6. DOS AND DON'TS FOR MINIMIZING MUSCLE SORENESS

The following dos and don'ts will help reduce the chance of soreness and increase the effectiveness of your workout:

**Do** consult with your personal physician prior to starting an exercise program, especially if you are over 40 or aware of potential risk factors (heart disease, obesity, cigarette smoking, high blood pressure, osteoporosis).

**Do** set realistic goals and objectives.

**Do** exercise within your target heart rate zone.

**Do** warm up and cool down properly.

**Do** stretch after warming up and before beginning any workout program.

**Do** stretch after completing your cool-down.

**Do** drink plenty of water before, during and after your workout; if you wait until you're thirsty, you've waited too long. Avoid caffeine and alcoholic beverages immediately before or after exercise.

**Don't** increase duration or intensity in large amounts in any given week. If weight training, don't increase the weight you are lifting by more than five percent in any given workout.

**Don't** increase intensity and duration at the same time. First increase duration, then increase intensity for cardiovascular training.

**Don't** overdo it in hot and/or humid weather.

**Don't** work out if you don't feel well. Listen to your body — it usually knows best.

DO

DON'T

# 7.

## TEN TIPS FOR STAYING WITH YOUR EXERCISE PROGRAM

**S**tarting an exercise program won't make your life better; staying with an exercise program will. If you've gotten this far, you're obviously committed to making changes to improve your life. Congratulations!

Maintaining consistent exercise habits can be a big challenge. But sticking to a training program gives you tremendous rewards. Once you begin to notice how much better you feel and look, you will wonder how you ever got along without regular exercise. If the physiological benefits are not immediately apparent, sometimes it is hard to stay motivated. The following tips are a few of the more popular and effective strategies used by many successful athletes, coaches and sports psychologists to maintain motivation:

**Don't Overdo It:** Injury is the #1 reason for quitting exercise, and perhaps the most common cause of injuries is exercising too aggressively, or trying to do too much too soon. Whatever activity you choose, proceed at your own pace. When beginning a new program, always begin at a very moderate intensity and adjust it according to your fitness and comfort level. Periodically reevaluate your intensity and duration to make sure that you are not over or undertraining. Never compare yourself

to others or feel that you have to keep up with them. Remember that you're doing this for you.

**Set Attainable Goals:** Even if you have a big goal of losing weight or running in a 10K race, set smaller goals for yourself that can be achieved in six- to eight-week increments. In this way, you can enjoy the sense of pride and accomplishment more frequently while on your way to achieving your ultimate goal. Write your goals down and monitor your success. Adjust your goals if you set them too high at the beginning.

**Keep a Progress Chart:** Keep an exercise log that includes your written goals as well as a log of your workouts. Include subjective comments about how you feel during and after exercise so you'll be aware of subtle changes when you improve. It will be written proof of your success.

**Variety Is the Spice of Life:** Put variety into your exercise program by alternating the types of activities in your workouts. For example, one workout may include cycling, the next one walking and the next one rowing. This type of training — called cross-training — helps you to avoid boredom, reduces the risk of injury due to overuse of a single muscle group and provides better overall body conditioning.

**Keep It Convenient:** Choose an exercise that doesn't require a lot of skill; something that you can do almost anytime or anywhere, even if you're alone. Get some fitness equipment that you can use at home. Work out while you watch your favorite TV show or while you read. If you're going to join a health club, choose a location that is close to either your home or your office.

**Time of Day:** There is no time of day that is better than any other time. However, some people prefer one time over another. Keep it convenient.

**Plan Ahead:** Integrate fixed workout times into your schedule just as you would schedule a business meeting or a doctor's appointment — and keep the date! By having a plan, you're showing commitment and are more likely to exercise on a regular basis.

**Gain Fitness Knowledge:** Become a student of fitness and discover what will work best for you. The more you learn about the benefits of exercise, the more motivated you'll be.

**Enlist a Friend:** Work out with a friend. There will be days when you just won't feel like working out. Having a buddy along to help motivate you is a great way to keep you going and double the fun of exercising! It is best to work out with a friend who has the same interests and a similar level of fitness.

**Dress For Success:** Equip yourself with proper workout gear. Wear comfortable athletic shoes with good support and nonrestricting, breathable clothing. Also, be sure to use safe, reliable equipment. All of these can significantly reduce your risk of injury.

**Reward Yourself:** Hard work and success deserve reward. When you have reached a goal, reward yourself with a special treat such as a new CD or an evening out with friends. You've earned it!



## 8. WHAT TO LOOK FOR WHEN BUYING FITNESS EQUIPMENT

**S**avvy consumers are discovering what health club operators have known for years — not all fitness equipment is alike. There is a broad spectrum of products on the market: from quality equipment with programs and features that virtually guarantee results to inferior products sold in discount stores and television infomercials. To help you select durable products that will help you reach your goals, here's what to look for when buying fitness equipment:

**Easy Enough So You'll Use It Consistently:** All Life Fitness cardiovascular equipment features self-instructing consoles that are easy to understand and use. Lighted prompts make it easy to enter data and to set up a program especially for you. Minimum effort levels and safer exercise programs make effective exercise possible for everyone.

**Heart Rate Programs for Effective Workouts:** Only Life Fitness offers the exclusive Fat Burn and Cardio programs that maximize every workout. Simply enter your age on the console, and the heart rate Zone Training® programs

adjust your pedal resistance or treadmill incline to keep you at your target heart rate. It takes all the guesswork out of exercising by doing the math for you.

**Motivating Feedback to Keep You Going:** Life Fitness equipment provides instant feedback on your heart rate (heart rate models), workout program, elapsed time, distance, watts, METS (see glossary on p. 27) and calories burned to keep you motivated. The display console serves as a personal coach and motivator by giving continuous performance feedback.

**Results-Oriented Workouts to Help You Succeed:** With Life Fitness equipment, you can base your workout on elapsed time, calories burned, distance, watts, METS, pedal RPM and/or calories burned per hour. Simply enter your goal on the console and watch your progress on-screen.

**Comfortable Enough for Even the Longest Workouts:**

Comfort is built into every Life Fitness exercise machine. Our recumbent Lifecycle bikes feature a natural seat that is biomechanically superior to those on ordinary exercise bikes. Our stairclimbers provide a natural stepping action that keeps you comfortable even during long workouts. Our cross-trainers feature elliptical movement for increased variety and reduced impact. And only Life Fitness treadmills give you the patented FlexDeck™ shock absorption system that reduces impact to your back, hips and knees by up to 30% compared to other harder running surfaces.

**Quick Results to Make the Most of Your Valuable Time:**

Our state-of-the-art workout programs are designed to maximize results with every workout. The exclusive Hill program found on every Life Fitness cardiovascular system provides hill and valley programs that replicate the interval training used so effectively by professional athletes.

**Built to Be Used Without Breaking Down:**

Life Fitness machines have earned the fitness industry's finest reliability rating. Our test robots put our products to the test 24 hours a day, 7 days a week to ensure solid performance in even the most grueling environments.



**Features That Make It the Industry Standard:**

When you purchase fitness products from Life Fitness, you're buying from the best. Our in-home cardiovascular equipment is built with the same tradition of solid construction, reliability and durability that has made our health club products so popular.

**Quality Backed by Warranty:**

Generous Life Fitness warranties exemplify our commitment to well-designed, well-engineered products. With Life Fitness, you'll enjoy peace of mind that comes from owning the best.

**Complete Support After the Sale:**

With Life Fitness, our support continues after the sale. Our Customer Service and Support Technicians are available to answer your questions. Simply call our toll-free hot lines to talk with a Life Fitness representative.

# 9.

## FITNESS GLOSSARY

**Aerobic** – With oxygen, or in the presence of oxygen.

**Aerobic Exercise** – A method of conditioning the cardiovascular system by performing an activity that uses large muscle groups, is rhythmic, elevates the heart rate for a period of time and increases the intake of oxygen.

**Anaerobic Exercise** – Activity that requires no oxygen; usually short-spurt, high-energy activities.

**Basal Metabolic Rate (BMR)** – The energy requirements necessary for maintenance of life processes such as heartbeat, breathing and cell metabolic activities.

**Calorie** – The amount of energy necessary to raise the temperature of 1 liter of water 1° C. Also called a kilocalorie.

**Carbohydrate** – Organic compounds containing carbon, hydrogen and oxygen; when broken down, a major energy source for muscular work and one of the basic foodstuffs.

**Cardiac** – Pertaining to the heart.

**Carotid Pulse** – Pulse located on the carotid artery down from the corner of the eye, just under the jawbone; used for taking heart rate.

**Cool-Down** – Rhythmic, low-intensity cardiovascular activities that provide a transition period between high-intensity cardiovascular work and less taxing calisthenics or stretching.

**Empty Calories** – A term used to denote food contributing calories that are void of significant food value, e.g., alcohol, simple sugars.

**Fat** – Stored as adipose tissue in the body, it serves as a concentrated source of energy for muscular work; a compound containing glycerol and fatty acids.

**Fatigue** – A diminished capacity for work as a result of prolonged or excessive exertion or inadequate fuel.

**HDL** – High-density lipoproteins (so-called good cholesterol) that return unused fat to the liver for disposal; HDL levels are raised by cardiovascular exercise and are beneficial due to their “removal” effect on harmful LDL (low-density) lipoproteins.

**Intensity** – Degree of resistance, energy or difficulty as related to a workout.

**Isokinetic** – Contraction in which the tension developed by the muscle while shortening at constant speed is consistent over the full range of motion.

**Isometric** – Contraction against an immovable force; static; a muscle contraction in which the tension increases, but muscle length remains the same.

**Isotonic** – Movement against a movable force; dynamic; a muscle contraction in which the tension increases while the muscle length changes (concentric: muscle shortens; eccentric: muscle lengthens).

**Maximum Heart Rate** – Theoretical maximum heart rate that one can achieve during his or her greatest effort in exercise; estimated to be 220 minus your age.

**Metabolism** – The sum total of the chemical reactions in the body at rest or during exercise.

**MET** – The expression of the rate of work (power output) for the human body at rest, or a metabolic equivalent. One MET is approximately equal to a person's metabolism when seated and relaxed.

**Nutrients** – Substances obtained from food and utilized by the body to promote growth, maintenance and/or repair (e.g., proteins, vitamins, minerals and water). They are necessary for all bodily functions.

**Power** – Quick movement in which the body is propelled either upward or outward; explosive strength; performance of work accomplished per unit of time.

**Protein** – A compound composed of carbon, hydrogen, oxygen and nitrogen arranged into amino acids linked in a chain, responsible for building and repairing of tissue, hormone production and enzyme function.

**Recommended Daily Allowances (RDA)** – Percentage or amount of calories for proteins, fats, carbohydrates, vitamins and minerals that should be included in the daily diet. The estimated amount of all nutrients needed daily to maintain optimal health. These estimates vary for different conditions, ages and disease processes.

**Recovery Heart Rate** – Heart rate taken at the end of exercise after cool-down and stretch. The amount of time it takes to recover back to preexercise rate is an indication of cardiovascular health.

**Reps** – Short for repetitions. One complete exercise that includes both concentric and eccentric movements.

**Sets** – A group of reps; as in one set of 12 reps.

**Shin Splint** – A term that applies to any pain in the front portion of the lower leg. May be caused by overuse, inflammation of muscles and tendons or small muscle tears.

**Spot Reducing** – A popular but false assumption that an individual can “burn” fat only in desired areas. Fat is not reduced selectively from exercised areas, but rather from total fat stored in the body.

**Sprain** – Often the result of sudden forceful movement; injury that damages ligaments as well as joints.

**Static Stretch** – Stretching/elongating a muscle and holding a steady point for a period of 20 seconds without bouncing.

**Strain** – Muscle pull; a stretch, tear or rip of the muscle or adjacent connective tissue such as fascia or muscle tendon. Usually occurs from an excessive effort.

**Strength** – Maximum force or tension that a muscle or muscle group can produce against resistance.

**Target Heart Rate Zone** – The number of heartbeats per minute reflecting the exercise intensity that gains the maximum training benefits from an aerobic workout. The formula for obtaining a target heart rate equals  $220 \text{ minus your age} \times 55\% \text{--}90\%$ , depending on the individual's fitness goals and physical condition. Also referred to as Training Heart Rate Zone.

**Warm-Up** – A balanced combination of increasingly intense cardiovascular exercises and static stretches that prepare the body and the mind for more vigorous exercise.

**Watts** – The expression of the mechanical rate of work (power output) for a device such as a cardiovascular machine.

## Life Fitness Academy

The Smart Exercise Guide was developed in cooperation with the Life Fitness Academy. The Academy was created in 1993 to support and advance research and education in exercise science and fitness.

The Life Fitness Academy's endeavors are guided by its Scientific and Medical Advisory Board and Training Network, which is comprised of the country's most renowned professionals in exercise science and medicine. Board and Training Network members lend their time and expertise to the Academy to ensure the highest quality programming and education.

The Academy is wholly funded by Life Fitness, a Brunswick company, as part of its ongoing commitment to health and fitness. Special thanks go to Scientific and Medical Advisory Board members James Skinner, Ph.D., at Indiana University and Steven N. Blair, P.E.D., at the Cooper Institute for Aerobic Research in Dallas for their assistance with this project.



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## Life Fitness – The Leader in Fitness Equipment for Fitness Facilities and Homes

Life Fitness started the fitness revolution with the introduction of the Lifecycle® Exercise Bike three decades ago. Today, Life Fitness is the leading manufacturer of high quality, premier fitness equipment with a full line of cardiovascular and strength training products for health clubs and homes that is among the most reliable in the world.

Life Fitness is the first U.S. fitness company to meet the stringent criteria demanded for ISO 9001 Certification, the internationally recognized standard for quality in design and workmanship. Our long-term test robots run 24 hours a day, 7 days a week, to ensure our 99.9 percent out-of-the-box reliability.

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R-Series and C-Series Lifecycle Exercise Bikes

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