





## Arnold the new encyclopedia of modern bodybuilding pdf

From elite bodybuilding competitors to gymnasts, golfers to fitness gurus, anyone who works with weights should have this book -- a book that only Arnold covers the latest developments in both weight training and bodybuilding. In it, Arnold covers the latest developments in both weight training and bodybuilding competition, with new sections of diet and nutrition, sports psychology, treatment and prevention of injuries, and training methods, illustrated with detailed photos of each bodybuilding's newest star. Plus, here are all the features that make this book a classic: • Arnold's tried and true tips for each muscle identification to create sculpture, empowerment and ultimate buff physics • Whether an amateur athlete or a professional bodybuilder is preparing for a competition, strength training for stilt your needs is the most effective methods • Comprehensive knowledge of health, nutrition and treatment of sports-related injuries • By choosing strategies and tactical promotional processing poses for competitive bodybuilders • fascinating history and growth' bodybuilding as a sport, bodybuilding Hall of Fame in a photo • And of course, throughout covering every level of expertise and experience Arnold will help individual brand inspiration, reach the best of his personal encyclopedia of Modern Bodybuilding. Arnold, a seven-time winner of the title Of Mr. Olympia and the entire international film star, share secrets of dedication, training and devotion and shows you how to take control of your body and realize your own potential for greatness. Power. Speed. Proud. These are just some of the reasons why bodybuilding has become the fastest growing sport in America. Athletes everywhere from gymnasts to football players, golfers to boxers are working with weights to maximize their performance and lives. Arnold Schwarzenegger and the Encyclopedia of Modern Bodybuilding. It is considered a definitive source of this nationwide and around the world -- the Bible on bodybuilding. It is considered a definitive source of this nationwide and around the world -- the Bible on bodybuilding. It is considered a definitive source of this fully updated and revised New Encyclopedia, arnold with new episodes of diet and nutrition, treatment and thirronics prevention, and training methods, illustrated with detailed photos featuring the newest star in each bodybuilding covers all the latest developments in both education and competition. Also, all the features made of this book They're still here. You will find every aspect of bodybuilding, from the history of sports to a full analysis of the muscles in the body, including tips on how to strengthen, shape and identify each muscle to create Arnold's ultimate balanced physique. Covering every stage of development, the encyclopedia outlines special training programs for core, advanced and competitive bodybuilders. You get expert advice on everything, beginners are the equipment you need to use to complete career and competition strategies for elite bodybuilders. Whether it's your first time in the gym or if you're a pro-competitive bodybuilder in a top event, Arnold's training and exercise internal advice will help you reach your best. Then, when you're ready, the New Encyclopedia of Modern Bodybuilding will prepare for intense psychological warfare in professional competition. Applying his experiences as Mr. Olympia only seven times, his monumental achievement as an international movie star, Arnold's devotion, sharing secrets about education, and the commitment that will take control of your body and achieve your ultimate potential. © 1996-2014, Amazon.com, Inc. or its affiliates The Bible of Bodybuilding, Full Updated and Revised By Arnold Schwarzenegger Copyright © 1999 Arnold Schwarzenegger All rights reserved. ISBN: 0684857219 Foreword Second Edition would have everyone thought to compile an encyclopedia of bodybuilding and resistance training, let alone more than six hundred pages long? After all, how much is there to say about removing heavy metal plates? Bodybuilding, as they say, is not rocket science. Well, many people take exactly this approach when starting a bodybuilding program; I know because it's easy for them to notice in the gym. Such individuals usually pile up iron with extreme heavy weight on a bar, all kinds of forms needed to take the weight (with an extra push from the lower back to measure well), and then let the bar collapse. It's not bodybuilding! Strong desire but short of smarts, these folks will usually give up quickly because they are either sidelined by an injury or don't need a doctor to learn the complexity of bodybuilding, but it doesn't feel as natural as cycling. Heck, bodybuilding word is like a foreign language: pyramid training, gastroknemius, negatives, periodicization, instinctive training, detection. From hundreds of unique exercises and variations to understanding how a result-producing exercise (and a result-producing exercises) and variations to understanding how a result-producing exercise (and a result-producing exercise) and variations (and a result-producing exercise) and the result-producing exercises (and a result-producing exercise) and (and a result-produ know what you are doing. If you're rich enough. For a personal trainer of \$50 (or more) you may be able to get rid of being dumbbell in a bodybuilding for an hour. Or, about the price of a single session, invest in this encyclopedia and reap a lifetime of earnings that you will start with the much next exercise. A lot of people forget that I was once a novice, just like you, and started developing my body and career in the position you are in now. If you find that hard to believe, there are a series of photos that show how far I had to go in my teenage years, how much work I had to do. What made it difficult for me to stand apart from my peers was a deep and deep desire to build muscle and an intense commitment to let nothing stop me. I made countless mistakes along the way because the only guidebook I had was a couple of Joe Weider's English muscle magazines and I didn't even know their language! The magazines and I didn't even know their language! The magazines and I didn't even know their language! The magazines and I didn't even know their language! The magazines and I didn't even know their language! The magazines and I didn't even know their language! The magazines and I didn't even know their language! The magazines and I didn't even know their language! The magazines and I didn't even know their language! The magazines and I didn't even know their language! The magazines and I didn't even know their language! The magazines and I didn't even know their language! the best teacher to learn from your mistakes as long as you process. When I started, I trained biceps much more carefully than triceps, a larger muscle group. I skipped EU education alumms because the conventional wisdom of that period ordered that the bellies received adequate arousal during many heavy compound movements. In those early years, I put so little effort into calf training that when I finally came to America, I had to double down on my efforts. I even went so far as to cut off the trouser legs in my workout sweats so that my weaknesses deserved more attention. Nor were many machines available; I never used a leg curling or leg extension in his early years as a bodybuilder. Most of all, I was sorry for my lack of knowledge; My catalog of exercises to shape the total body consisted of only a few movements. Fortunately, with this book, you don't have to make the same mistakes I did. What you learn here will affect everything in your life. When you see the fruits of your self-esteem and self-confidence improve, and these characteristics will put your work and interpersonal relationships long behind you in your competitive days. By giving bodybuilding not only physical characteristics, but also laying the foundation for everything I choose, and I know that it would take to make sacrifices, fight, insist and eventually overcome a barrier. Even today, most of the people who work with commentary on my commitment; I'm making a movie, and I'm ready to do a hard scene over and over again until I get it right. Why? It all brings back to discipline, If you don't make a commitment to make your physical health better, the same self-discipline carries focus and the driver for success to the rest of your life. Although you may not realize it now, you will notice it when you take the same disciplined approach to tackling a particular problem. That's another reason why I'm so enthusiastic about what bodybuilding can do. This book is not a biography, but the story of my life as a seven-time Mr. Olympia winner or a history of my life as a actor. (If you are interested, you can find it elsewhere.) Although I am known as a bodybuilder-turn-actor and businessman, on various occasions I have been able to take on another role, someone who brings me a huge amount of personal pride, and this role as a teacher. So in 1985 I published the original encyclopedia and continued my close relationship with the sport. In the years since the first publication, we have been informed to collect, review and review information for this expanded and updated reference. I can say that men and women of all ages have managed to inspire a generation to take charge of their health and fitness. From a dozen bodybuilding students hearing me give seminars at a Santa Monica gym in the mid-1970s to elementary and high schoolers I tried to exercise in when I went to all fifty states as president of the President's Physical Fitness and Sports Council, to the less lucky ones competing in the Year-end Urban Games and the developmental disabilities who participated in the Special Olympics. To the readers of my weekly syndicated newspaper column and to the readers of this encyclopedia, you all have no reason to take on this gigantic effort. I really appreciate you choosing me as your teacher. I can share with you my greatest passion in the world, which is the real secret for health, longevity and a better quality of life, has made this book an absolute effort of necessity and joy! Bodybuilding is my roots, and I will continue to promote sports and spread the word through my work. I have accumulated more than 35 years of bodybuilding experience, including tens of thousands of hours of training from yesterday with some of the world's top bodybuilders including tens, including Lee Haney. I have studied the writings of those before today's bodybuildings, including Eugen Sandow's Physical System, some dating back over a century. (1894), the U.S. Army's Physical Education Manual (1914) and Earl Liederman's Muscle Building (1924). I questioned the world's leading exercise scientists, researched students' questions in seminars I gave on major continents from Africa to Asia to South America. With this reference book designed for students ranging from beginners to ranking for athletes who just want to look better and improve their performance for those who want to be healthy, readers are free to get with the broad knowledge that took many years until it accumulated. In a sense, I feel like an on-call doctor who is constantly asked for expert advice. A skier in Sun Valley asked me recently how to build four strengths and muscle endurance to improve his performance; At a health congress, several people asked for some advice to build his forearm strength; On vacation in Hawaii, a woman came to me and asked me what she could do to lose a hundred pounds of body fat and keep it away, in seminars, young bodybuilders want to know how to get more training with just very basic equipment. Every day I'm asked questions on topics from vitamin A to zinc, the need for rest and recovery, to false promises of performance-enhancing substances. So a long time ago, I decided that if I was going to ea vense the benefits of bodybuilding, I should definitely stay up to date with the material. It wasn't an easy chore. Bodybuilding has also occurred at the speed of evolution light, both at the level of competition and among recreational athletes. Only because of a greater use of anabolic drugs that those who write off fail to see what is happening in the industry. Muscle building exercise, long muscle-bound and inflable claims made by coaches scoffed, has come under intense scrutiny by researchers. In fact, the science of resistance training is really becoming a science as exercise scoffed, has come under intense scrutiny by researchers. been trying out with trial and error for years. That doesn't mean we don't know what we're doing; On the contrary, early physical champions had pioneers in the field of health and fitness, planting development seeds for each generation of follow-up. We invented phrases like no pain, no gain, words that every bodybuilder knows and understands today. By showing us how best to manipulate the variables that make up your education, Factors. I grew up in a poor family in post-World War II Austria, but these conditions gave me a greater drive to succeed. Developing an instinctive sense about education is another spiritual factor that many upper bodybuilders develop. Desire, discipline and drive play an entire role. Science is struggling to measure these factors, but its importance is certainly profound. So, too, there are genetics: some individuals have bone structure and muscle-fiber makeup to succeed at competitive levels of power sports or bodybuilding. With bodybuilding. With bodybuilding. With bodybuilding in the bottom line, anyone can make improvements and achieve 100 percent of his potential, even without the potential to become a world-class athlete Nevertheless, body training exercise scientists and medical professionals, as well as researchers in the fields of diet and sports nutrition, are applying courses yesterday refined pinch and training techniques. If it is not set as stone, most of the ideas can be characterized as the best principles. After all, however, any findings presented by the scientific community of sports and bodybuilding champions themselves should be useful to students, who have the ultimate test of the validity of such ideas. Applying these facts to achieve results is the practical under the practical under the practical value of the information available on these pages and will also work for you! Since I last published the encyclopedia, the nature of bodybuilding has evolved in various ways. Press a bench, still press a bench, and a squat in a whether it's just to solidify and tighten your body, and how to effectively target delayed areas; how power athletes can adjust recurrence speed to build explosive strength; exercises that will include the greatest muscle benefits, and which can be best left to advanced interns; how to put together an exercise that maximizes body fat control, etc., and even how to cycle them to get the best of both worlds; not only to reduce the risk of injury, but actually lift more weight by adding 5- or 10 minutes of warm-up and slight stretching; how to get the best out of each rep and each set, taking your muscles for total failure and harvesting the greatest benefits in the pain zone; how to mix training variables when hitting a training plateau; very much enthusiasm will start to reverse muscle and strength gains. As I said, a few exercises are done any differently two decades ago now. Exceptions: Science, with a different opinion on how to make abdominal movements. The crispy movement, which has a shortened range of motion in which the pelvis and rib cage are drawn together, is a safer exercise than the common fully spaced work. The best bodybuilders of my competitive era didn't have extraordinary bellies doing sit-ups, but strong midseeds probably saved them from accruing spinal problems. Because at some point lower back pain afflicts more than three-guarters of all Americans, sit-ups are guite universal contraindices. Therefore, I have completely overhauled the abdominal education department to meet current scientific views. So I expanded the list of exercises to include a wide range of crunch variations. The basic raw materials of weight training machines traditionally preferred by some users due to the safety factor. Today, dozens of manufacturers are fiercely competing with each other, changing the face of industry and sports. Every year older and often new versions are becoming more sophisticated and seamless to run, now imitating free movements closer than ever. Some allow you to change the resistance angle from one set to another; others increase their negative resistance; Still use a computer to change the resistance of others. I predict we will see even more radical developments in the next few decades. They are not the only ones to take advantage of commercial gyms; The use of the home gym skyrocketed as large, the gliding machines took a big bite out of the wallet and gave way to small, safer models that still wouldn't fit nicely in a spare bedroom. This is an ideal choice for individuals who are too busy to go to the gym. Nutritionally, the raw concept of what you eat still rings correctly, but there is no discount on the dramatic changes that occur in sports nutrition, or. Of course, science has designed some super foods, like tighter tomatoes, and now we grow fish on so-called farms and leaner meats than ostrich and beefalo, for example. Today, we have also seen the introduction of some important supplements that help the athlete with more information and sports performance about the diets come, but I know that almost every bodybuilder follows the same basic guidelines I have available in this book. Most often, the lack of progress in muscle building efforts may be linked to dietary nutritional deficiencies. If I can get my hands on a phrase from the computer techs, if you take out the trash, you're probably going to take out the trash. I'm surprised at the various common sense strategies that might work for you. Between I am often asked about the protein role and key amino acids that promote tissue growth, how much should be consumed within a certain day, and how to eat for optimal absorption. Fats, mistakenly thought of as an enemy to bodybuilders, who can avoid them at all costs, play an important role in synthesizing key muscle building hormones and maintaining their health. No discussion of nutrition would have been completed without mentioning the most important supplements, some of which significantly changed the face of sports nutrition. Creatine is a proven performance enhancer, but a number of other products, including the amino acids, and antioxidants, are also important for athletes. We also know more about how nutrients are absorbed into the bloodstream; Since all foods are absorbed at the same rate, the glycemic index was created to measure insulin response, an important anabolic process. Given that a hard workout consumes your muscles in their glycogen stores (basically stored energy), eating after exercise is especially important. The research now tells you what it should contain and how long it will take to refuel after a training session. And who are top bodybuilders themselves better, endured numerous competition preparation cycles, even to explain the tricks you can use to reduce the fat of the bodybuilders themselves better, endured numerous competitive, just to look big on the beach. In the field of sports psychology, milion-dollar athletes are developing with payroll. New theories and techniques show the importance of the mind in education and competition, how to promote and focus motivation, and how to identify and determine achievable short- and long-range goals. If you have a goal to become Mr. Olympia, you can see your ultimate physique clearly, then follow it with a plan on how to create it. Nothing happens by accident. For example, by chance you will not be a respected doctor; If you need to plan years of intensive work to achieve your goal. The same applies to your education. Once you clearly have your goals in mind, I will show the bow to create your own personal exercise routine, but the role of mind does not end there. As it did for me, this vision will inspire you, the burning representative of each set, and take you one step closer to the goal in succession. But there's more to the gym than's going on: Diet and lifestyle issues will also bring you closer or farther to the goal you want. That's why the mind is so important in all sports, including bodybuilding. Your mind must first create the picture and your training must be compatible with this visualization. When you start seeing changes, you start to feel better. The result is a self-perpetuate process: you focus your mind to educate your body, the changes that begin to happen also affect your mind. Imagine, believe, and you can do it! A billion-dollar industry has emerged with unlimited career opportunities in bodybuilding supernutrition health clubs, clothing, equipment, nutritional products, publications and media, physical therapy, personal training and coaching, and other fields. Can you imagine making money every day from an activity you prefer to do freely as a hobby? If that's where you want to be, learning everything you can about the body and how it works is a great place to start. In parallel with the changes made in bodybuilding studies, there are large ones in society. Today, weight training is one of the most popular leisure fitness activities in America, but certainly some twenty-five years ago it wasn't like this. I remember hearing various coaches and athletes hearing muscle-building at the bash, claiming this would hinder sports performance. (Gee, I wonder where these guys are now!) Resistance training is used by all kinds of people today. From high schools to colleges and professional sports teams, weight training helps create better, stronger, faster athletes. Of course it takes incredible natural talent to rise to the top of the sport, but without question resistance training provides the winning edge. Baseball slugger Mark McGwire regularly hits the irons throughout the season, as almost every position in the National Football League has no players. I've even seen the NBA's World Champion Chicago Bulls play sports while working out in Los Angeles at Gold's Gym. You can bet they don't take pictures like tourists! You can strengthen the backhand for tennis, create a guartet for skiing, add valuable height to the vertical jump in volleyball, develop the ability to withstand a hit of football, build the strength and step of the sprint with swimming stroke strength and kicking, and resistance training. Moreover, it will be more injury resistant if a mishap occurs. Of course, you can't expect a train like a long-distance runner footballer. The selection of training variables allow each athlete to adapt the activity according to individual needs and goals. For some, like boxers and wrestlers competing in weight classes, or gymnasts who cannot afford to significantly increase their body weight, strength is important, but traditional bodybuilding of a different kind of training is required. A football lineman, shot-putter, or disc shooter each has his own special training requirements for his activity. If you're doing a sport, you'll learn how to customize your workout to meet your sports-specific (and even location-specific) needs. Still, in the end, no matter what the athlete weighs 150 or 250 kilos, strength training is the common thread. Some professions demand the staff goes through exhausting physical conditions. To ensure everyone's safety and mission effectiveness, entry requirements to the army, fire and police academies require a rigorous level of fitness in terms of strength, muscle endurance and aerobic fitness. This is especially challenging (but by no means impossible) for women, who perhaps need to educate more powerful male colleagues. It doesn't mean you no longer have to stay in shape after being selected for admission; To that end, police and fire departments are loading weight rooms on their premises and encouraging veterans to maintain the highest level of physical air conditioning. Just a few years before the Gulf War, the Washington Post reported that the number one request of the number one soldier in the Middle East was to send weights so they could continue their training. Until then, they were lifting buckets of sand. At the time, I served as chairman of the President's Physical Fitness and Sports Council and applied to a number of large equipment companies seeking donations. In total, we have collected more than 400 tons of equipment that General Colin Powell insists should be airlifted to soldiers. Physical fitness is so important to some of these guys! Even resistance training is used by the elderly. For each year of life after the age of about twenty-five, you lose about half a kilo of muscle. Without a proper training stimulant, your muscles will eventually decrease in size and strength. Regular exercise can not stop as a result that is not really used this will help to keep the aging process back. For many seniors, more power lead to independence and improved quality of life. Now before you visualize Granny under the squat rack, you even notice that only basic movements strengthen muscle and bone and increase flexibility, but should be user-specific. Today, exercise against water resistance in a pool is a popular activity among many seniors. New research shows that exercise can also help in the process of fighting the disease. Just don't take my word for it; This is a verified fact. Just recently read a report in the Journal of Strength and Conditioning Research that weight training helps cancer patients. Numerous other studies have linked resistance training to improvements in individuals with diabetes, hypertension, heart disease, arthritis, asthma and AIDS. Exercise can boost the immune system, allowing you to better destage minor ailments, even mild depression. Again, the weight training program must be customized to meet the specific needs of the individual. What about the youngsters? Yes, they can also benefit from using such a high rep protocol and body weight exercises, making a few changes to some of the benefits of a resistance training program strengthen both and build bones and muscles. One of the most notable recent fitness trends has doubled the popularity of power training among women between 1987 and 1996. At a competitive level, the sport now offers competitions for both bodybuilders and fitness trends has doubled the popularity of power training among women between 1987 and 1996. At a competitive level, the sport now offers competitions for both bodybuilders and fitness trends has doubled the popularity of power training among women between 1987 and 1996. At a competitive level, the sport now offers competitions for both bodybuilders and fitness trends has doubled the popularity of power training among women between 1987 and 1996. At a competitive level, the sport now offers competitive level, the sport now offers competitive level that cannot compete and provide the popularity of power training among women between 1987 and 1996. At a competitive level, the sport now offers competitive level, the sport now offers competitive level that cannot compete and provide the popularity of power training among women between 1987 and 1996. At a competitive level, the sport now offers competitive level that cannot compete and provide the popularity of power training among women between 1987 and 1996. At a competitive level, the sport now offers competitive level, the sport now offers competitive level that cannot compete and provide the popularity of power training among women between 1987 and 1996. At a competitive level, the sport now offers competitive level, the sport now offers competitive level that cannot compete and power training among women between 1987 and 1996. At a competitive level, the sport now offers competitive level, the sport now offers competitive level, the sport now offers competitive level. such as glutes, hips and triceps. Most often, women have different goals than men, we are usually interested in inflating more and significantly increasing their strength. While the goals of men and women are different from a physiological male: small skeletal structure, less upper body mass than legs, more body fat and fat cells found in the hips, thighs, and areas of glute compared to the waist. But given these facts, muscle fiber and, whether it's a man or a woman, exercises and training techniques. For many women, then, putting forward with some changes in force training guidelines is the following answer. Does that mean if you work like a man, you'll grow bigger muscles? Certainly not: Women produce very little testosterone, the anabolic hormone is largely responsible for muscle growth, which is much less pronounced than the educational effect. In the bottom line here is that this book cater to various goals for almost every body type, age and gender; You can make an equally impressive physical transformation even if a woman's goal is not traditional bodybuilding per head. Have you ever broken a bone and then visited a physiotherapist to start rehabilitation? Force training is also useful here. Not only do you reduce the risk of soft tissue and joint injuries, but full recovery and activity is the best tool for a quick turnaround. Whether it's temporary muscle pain, low back pain, tight joints, or returning to action after breaking a bone, resistance training will allow you to re-gain old levels of strength faster. Bodybuilding has come a long way from the days when Charles Atlas offered to help pencilboys kicking sand in their faces. Resistance training is now implemented worldwide. Undoubtedly, very large weapons are more than building and looking big on the beach (but this is not bad targets, beware); Weight training can reshape your body and improve your voice, health as well as the game, keep injury free and ensure a long, active future. Whether you're a novice looking for training nuts and bolts, wanting to interrupt exercise at some point and bring a delayed body part, or want to refine your physique and include advanced training techniques, you'll find answers Page. Obviously, then, the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encyclopedia within the scale of the changes that have occurred since I first published the encycloped the en have a greater understanding of the benefits of resistance training, which partially accounts for its enormous popularity. Each person who enters a gym or health club brings a personal motivation as to why he chose resistance training to achieve certain goals. Of course, the purpose of bodybuilding is to develop more muscle size and improve its physical appearance, but in no way is the only reason individuals train with their weight. Also consider the effects on its strength: it has the capacity to do greater work, to lift a heavy weight once as well as (muscle endurance). Some types of bodybuilding, such as circuit training, are a good choice to build heart health and improve the functioning of the lungs and respiratory system. Traditional bodybuilding will promote greater health benefits along with some types of aerobic training. In an increasingly technology-driven society, he sits in front of computers and televisions for a long time, eating a lot of calories from fat, obesity and numerous important health consequences. Bodybuilding plays an important role in building lean muscle tissue and reducing body fat. Unlike fat (adipose) tissue, muscle tissue is metabolically active and has a high energy requirement for maintenance and rebuilding. An increase in muscle tissue corresponds to an increase in your metabolic rate. Bodybuilding literally helps you redesign your body and lose up to two kilos of fat a week - without risking your health with diet pills or fad

diets! One of the interesting ironies of life is that overweight individuals also tend to be tired, while those who do energy exercise have more. Other healthy effects can also be measured. Research shows that correct resistance training makes you more flexible, not muscle-bound. Because when a muscle stretches during a movement, the antagonist muscle stretches. Many top athletes who have spent years in the weight room, such as muscle gymnasts and track sprinters, must have tremendous flexibility of movement and I recommend working all body parts on normal ranges of movement. As you get older, especially if you're a woman, she loses the strength and size of the bones. Resistance training can get in the way of osteoporosis and even reverse it. This also applies to tendons and ligaments. Strong muscles, bones and connective tissue your risk of injury. The skelete muscle serves as a kind of shock absorber that helps disperse the force of a repetitive activity as it works a simple drop on a hard ground. As I said, the importance of the psychological component of bodybuilding cannot be underestimated. Mental health professionals agree today that is well done, and physical fitness is no exception. You work to achieve your goals, and by gaining respect from others in the process, you can be rightly proud after achieving them. Let me finally add that regular education can increase sex life by giving significantly more energy, increasing testosterone levels, decreasing anxiety, and improving self-respect. It makes all this summary in a remarkable and challenging situation for bodybuilding. No wonder working with weights was the most popular fitness activity in America, measured by the Fitness Products Council in 1995 and has remained on top ever since. USA Today even reported that significant improvements in muscle strength and sound are possible by lifting weights only twice a week for 20 to 30 minutes, despite the myth that bodybuilders spend countless hours in the gym every day. Will fitness be part of this revolution, or will you be in the ever-expanding ranks of the country's obese? Here's what I can offer you. To put in writing my great experiences in this encyclopedia-sized book, ranging from world-level projections to training conversations with today's top bodybuilders, consultations with exercise scientists, nutritionists, and researchers took to investigate readers' questions that I asked me about education around the world. Since knowledge has never been final, I have studied the winning formulas of the past and today's most up-to-date theories, even as a retired competitor, to stay on top of the sport. In reality, this still makes me a student of the sport, but because I still love bodybuilding too much, it's something I plan to continue for a very long time. At the same time, by sharing the wealth of knowledge, I can also serve as a teacher. If it's all right with you, think of me as your personal trainer. Here's what you have to bodybuilding circles. Those who succeed, you must have a sincere and burning desire to achieve your dreams, dedicate yourself to achieving progress, and take control of your circumstances to change your body. You should notice that shortcuts such as using anabolic/androgenic steroids only lead to short-term progression and potentially some very serious long-term health problems. Understand this bodybuilding a process overnight, but more like a lifetime. Personal factors such as your attitude, commitment and desire to improve your appearance play an important role in your ultimate success. Effort, smart train, to learn how to listen to your body and combine it with a good diet. But at the same time you don't get too caught trying to understand all educational ideas and countless principles. You probably don't have the experience to interpret all the information properly anyway. If you're with me by now, you're miles ahead of everyone else, and you're destined for greatness. I tried to make this book as honest, accurate and practical as possible. Work on it, review the material over again, constantly refer to it when you have questions, you need motivation for your next training session, or we're just looking for ways to and resistance training, let alone more than six hundred pages long? That's what I thought. Let's do it! Arnold SchwarzeneggerCasim 1998Telif © 1985, 1998 Second Edition by Arnold SchwarzeneggerForeword Who would have thought everyone would compile an encyclopedia of bodybuilding and resistance training, let alone more than six hundred pages long? After all, how much is there to say about removing heavy metal plates? Bodybuilding, as they say, is not rocket science. Well, many people take exactly this approach when starting a bodybuilding, as they say, is not rocket science. Well, many people take exactly this approach when starting a bodybuilding, as they say, is not rocket science. Well, many people take exactly this approach when starting a bodybuilding program; I know because it's easy for them to notice in the gym. Such individuals usually pile up iron with extreme heavy weight on a bar, all kinds of forms needed to take the weight (with an extra push from the lower back to measure well), and then let the bar collapse. It's not bodybuilding! Strong desire but short of smarts, these folks will usually give up quickly because they are either sidelined by an injury or don't see any significant results in all the work they do. The truth is that you don't need a doctor to learn the complexity of bodybuilding, but it doesn't feel as natural as cycling. Heck, bodybuilding word is like a foreign language: pyramid training, gastroknemius, negatives, periodicization, instinctive training, detection. From hundreds of unique exercises and variations to understanding how a result-producing exercise can be put together, learning many different elements of resistance training requires time and practice. To make progress at the fastest possible speed, you just need to know what you are doing. If you are rich enough to afford an hour for a personal trainer for \$50 (or more) you may be able to get rid of being dumbbell in a bodybuilding. Or, about the price of a single session, invest in this encyclopedia and reap a lifetime of earnings that you will start with the much next exercise. Many people forget that I, like you, was once a novice and started my building And my career is in the same position as you right now. If you find that hard to believe, there are a series of photos that show how far I had to go in my teenage years, how much work I had to do. What made it difficult for me to stand apart from my peers was a deep and deep desire to build muscle and an intense commitment to let nothing stop me. I made countless mistakes along the way because the only guidebook I had was a couple of Joe Weider's English so I could follow the routine of my first idol, Reg Park. Nevertheless, the journal can only teach me some basic concepts; It was all done by trial and error. Experience, however, is the best teacher to learn from your mistakes as long as you process. When I started, I trained biceps much more carefully than triceps, a larger muscle group. I skipped EU education alumms because the conventional wisdom of that period ordered that the bellies received adequate arousal during many heavy compound movements. In those early years, I put so little effort into calf training that when I finally came to America, I had to double down on my efforts. I even went so far as to cut off the trouser legs in my workout sweats so that my calfs were constantly visible and examined -- something that kept reminding me that my weaknesses deserved more attention. Nor were many machines available; I never used a leg curling or leg extension in his early years as a bodybuilder. Most of all, I was sorry for my lack of knowledge; My catalog of exercises to shape the total body consisted of only a few movements. Fortunately, with this book, you don't have to make the same mistakes I did. What you learn here will affect everything in your life. When you see the fruits of your labor, your self-esteem and self-confidence improve, and these characteristics, but also laying the foundation for everything I have achieved, in business, acting, even in the family. I know that I can succeed in everything I choose, and I know that because I understand what it would take to make sacrifices, fight, insist and eventually overcome a barrier. Even today, most of the people who work with commentary on my commitment; When I'm ready to do a hard scene over and over again until I get it right. Why? It all brings back to discipline. If you don't make a commitment to make your physical health better, the same self-disciplined approach to tackling a particular problem, you will eventually notice it. That's another reason why I'm so enthusiastic about what bodybuilding can do. This book is not a biography, but the story of my life as a seven-time Mr. Olympia winner or a history of my life as an actor. (If you are interested, you can find it elsewhere.) Although I am known as a bodybuilder-turn-actor and businessman, on various occasions I have been able to take on another role, someone who brings me a huge amount of personal pride, and this role as a teacher. So in 1985 I published the original encyclopedia and continued my close relationship with the sport. In the years since the first publication, we have been informed to collect, review and re me give seminars at a Santa Monica gym in the mid-1970s to elementary and high schoolers I tried to exercise in when I went to all fifty states as president of the President's Physical Fitness and Sports Council, to the less lucky ones competing in the Year-end Urban Games and the developmental disabilities who participated in the Special Olympics. To the readers of my weekly syndicated newspaper column and to the readers of this encyclopedia, you all have no reason to take on this gigantic effort. I really appreciate you choosing me as your teacher. I can share with you my greatest passion in the world, which is the real secret for health, longevity and a better quality of life, has made this book an absolute effort of necessity and joy! Bodybuilding is my roots, and I will continue to promote sports and spread the word through my work. I have accumulated more than 35 years of bodybuilders including Bill Pearl, Reg Park, Dave Draper, Frank Zane, Sergio Oliva and Franco Columbu, Flex, Shawn Ray and eight-time Mr Olympia to today's champions, including Lee Haney. I studied the writings of those before modern-day bodybuilding, including Eugen Sandow's Physical Education Manual (1914) and Earl Liederman's Muscle Building (1924), some dating back over a century. I questioned the world's leading exercise scientists, researching the questions I give students on all major continents from Africa to Asia to South America to the more new trainings I organise every year. Columbus, Ohio -- and poured every ounce of that information into this reference book designed for students ranging from beginners to ranking for athletes who just want to look better and improve their performance for those who want to be healthy, readers are free to get with the broad knowledge that took many years until it accumulated. In a sense, I feel like an on-call doctor who is constantly asked for expert advice. A skier in Sun Valley asked me recently how to build four strengths and muscle endurance to improve his performance; At a health congress, several people asked about the end about the muscle building properties of creatine; At Wimbledon, the top tennis champion asked for some advice to build his forearm strength; On vacation in Hawaii, a woman came to me and asked me what she could do to lose a hundred pounds of body fat and keep it away, in seminars, young bodybuilders want to know how to put a hill of chard and improve your external thigh sweep; When talking to military personnel, I am widely asked how to get more training with just very basic equipment. Every day I'm asked questions on topics from vitamin A to zinc, the need for rest and recovery, to false promises of performance-enhancing substances. So a long time ago, I decided that if I was going to ea vense the benefits of bodybuilding, I should definitely stay up to date with the material. It wasn't an easy chore. Bodybuilding has also occurred at the speed of evolution light, both at the level of competition and among recreational athletes. Only because of a greater use of anabolic drugs that those who write off fail to see what is happening in the industry. Muscle building exercise, long muscle-bound and inflable claims made by coaches scoffed, has come under intense scrutiny by researchers. In fact, the science of resistance training is really becoming a science as exercise scientists confirm what we bedy builders have been trying out with trial and error for years. That doesn't mean we don't know what we're doing; On the contrary, early physical champions had pioneers in the field of health and fitness, planting development seeds for each generation of follow-up. We invented phrases like no pain, no gain, words that every bodybuilder knows and understands today. Let's show science how best to manipulate the variables that make up your education, you can't underestimate the importance of environmental factors. I grew up in a poor family in post-World War II Austria, but these conditions gave me a greater drive to succeed. Developing an instinctive sense about education is another spiritual factor that many upper bodybuilders develop. Desire, discipline and drive play an entire role. Science has a hard time measuring them. But their importance is absolutely profound. So, too, there are genetics: some individuals have bone structure and musclefiber makeup to succeed at competitive levels of power sports or bodybuilding. With bodybuilding in the bottom line, anyone can make improvements and achieve 100 percent of his potential, even without the potential to become a world-class athlete. Nevertheless, body training exercise scientists and medical professionals, as well as researchers in the fields of diet and sports nutrition, are applying courses yesterday refined pinch and training techniques. If it is not set as stone, most of the ideas can be characterized as the best principles. After all, however, any findings presented by the scientific community of sports and bodybuilding champions themselves should be useful to students, who have the ultimate test of the validity of such ideas. Applying these facts to achieve results is the practical under the practical tee of this encyclopedia. I have proven the practical value of the information available on these pages and will also work for you! Since I last published the encyclopedia, the execution of various exercises has changed little, but I have witnessed a number of other very important factors. Let me briefly review these developments, but how to exercise. You'll learn:how to configure your exercise, whether it's just to solidify and tighten your body, and how to effectively target delayed areas;how power athletes can adjust recurrence speed to build explosive strength; exercises that will include the greatest muscle benefits, and which can be best left to advanced interns; how to put together an exercise that maximizes body fat control, etc. , and even how to cycle them to get the best of both worlds; not only to reduce the risk of injury, but actually lift more weight by adding 5- or 10 minutes of warm-up and slight stretching;how to get the best out of each rep and each set, taking your muscles for total failure and harvesting the greatest benefits in the pain zone;how to mix training variables when hitting a training plateau;very much enthusiasm will start to reverse muscle and strength gains. As I said, a few exercises are done any differently two decades ago now. Exceptions: Science is weighed down with a different view of how to do abdominal movements. The crispy movement, which has a shortened range of motion in which the pelvis and rib cage are drawn together, is a safer exercise than the common fully spaced work. The best bodybuilders of my competitive era were the extraordinary wife doing but their strong midseding probably saved them from spinal problems. Because at some point lower back pain afflicts more than three-quarters of all Americans, sit-ups are quite universal contraindices. Therefore, I have completely overhauled the list of exercises to include a wide range of crunch variations. The basic raw materials of weight training - weightlifting, weightlifting and body weight exercises - have either not changed much, but we cannot say the same for resistance training machines traditionally preferred by some users due to the safety factor. Today, dozens of manufacturers are fiercely competing with each other, changing the face of industry and sports. Every year older and often new versions are becoming more sophisticated and seamless to run, now imitating free movements closer than ever. Some allow you to change the resistance of others. I predict we will see even more radical developments in the next few decades. They are not the only ones to take advantage of commercial gyms; The use of the home gym skyrocketed as large, the gliding machines took a big bite out of the wallet and gave way to small, safer models that still wouldn't fit nicely in a spare bedroom. This is an ideal choice for individuals who are too busy to go to the gym. Nutritionally, the raw concept of what you eat still rings correctly, but there is no discount on the dramatic changes that occur in sports nutrition, or. Of course, science has designed some super foods, like tighter tomatoes, and now we grow fish on so-called farms and leaner meats than ostrich and sports performance about the dietary needs of the difficult training athlete. Let's start with the basic bodybuilding diet. I have seen thousands and one fad diets come, but I know that almost every bodybuilder follows the same basic guidelines. If I can get my hands on a phrase from the computer techs, if you take out the trash, you're probably going to take out the trash. I'm surprised at the various common sense strategies that might work for you. Among macronuents, they are often asked about the protein role and key amino acids that promote tissue growth, how much should be consumed within a certain day, and how to eat for optimal absorption when. Fats, mistakenly thought of as an enemy to bodybuilders, who can avoid them at all costs, play an important role in the key synthesis hormones and health care. No discussion of nutrition. Creatine is a proven performance enhancer, but a number of other products, including the amino acid glutamine, branched chain amino acids, and antioxidants, are also reated to measure insulin response, an important anabolic process. Given that a hard workout consumes your muscles in their glycogen stores (basically stored energy), eating after a training session. And who are top bodybuilders themselves better, endured numerous competition preparation cycles, even to explain the tricks you can use to reduce the fat of the bodybuilder body that is not competitive, just to look big on the beach. In the field of sports psychology, milion-dollar athletes are developing with payroll. New theories and techniques show the importance of the mind in education and competition, how to promote and focus motivation, and how to identify and determine achievable short- and long-range goals. If you have a goal to become Mr. Olympia, you can see your ultimate physique clearly, then follow it with a plan on how to create it. Nothing happens by accident. For example, by chance you will not be a respected doctor; If you need to plan years of intensive work to achieve your goal. The same applies to your education. Once you clearly have your goals in mind, I will show the bow to create your own personal exercise routine, but the role of mind does not end there. As it did for me, this vision will inspire you, the burning representative of each set, and take you one step closer to the goal you want. That's why the mind is so important in all sports, including bodybuilding. Your mind must first create the picture and your training must be compatible with this visualization. When you start to feel better. The result is a self-perpetuate process: You focus your mind to educate your body, and the changes that begin to happen also affect your mind. Imagine, believe, and you can do it! Bodybuilding has given birth to a billion dollar industry with endless career opportunities in supernement growth health clubs, clothing, equipment, nutritional products, publications and media, physical therapy, personal education coaching and other fields. Can you imagine making money every day from an activity you prefer to do freely as a hobby? If that's where you want to be, learning everything you can about the body and how it works is a great place to start. In parallel with the changes made in bodybuilding studies, there are large ones in society. Today, weight training is one of the most popular leisure fitness activities in America, but certainly some twenty-five years ago it wasn't like this. I remember hearing various coaches and athletes hearing muscle-building at the bash, claiming this would hinder sports performance. (Gee, I wonder where these guys are now!) Resistance training is used by all kinds of people today. From high schools to colleges and professional sports teams, weight training helps create better, stronger, faster athletes. Of course it takes incredible natural talent to rise to the top of the sport, but without question resistance training provides the winning edge. Baseball slugger Mark McGwire regularly hits the irons throughout the season, as almost every position in the National Football League has no players. I've even seen the NBA's World Champion Chicago Bulls play sports while working out in Los Angeles at Gold's Gym. You can bet they don't take pictures like tourists! You can strengthen the backhand for tennis, create a quartet for skiing, add valuable height to the sprint with swimming stroke strength and kicking, and resistance training. Moreover, it will be more injury resistant if a mishap occurs. Of course, you can't expect a train like a long-distance runner footballer. The selection of exercises and manipulation of training variables allow each athlete to adapt the activity according to individual needs and goals. For some, like boxers and wrestlers competing in weight classes, or gymnasts who cannot afford to significantly increase their body weight, strength is important, but traditional bodybuilding of a different kind of training is required. A football lineman, shot-putter, or disc shooter each has his own special training requirements for his activity. If you're doing a sport, you'll learn how to customize your workout to meet your sports-specific (and even location-specific) needs. Still, in the end, no matter what the athlete weighs 150 or 250 kilos, strength training is the common thread. Some professions demand that staff go through exhausting physical conditions. To ensure everyone's safety and mission effectiveness, entry requirements to the army, fire and police academies require a rigorous level of fitness in terms of strength, muscle endurance and aerobic fitness. This is particularly challenging (but it means impossible) perhaps for women who need to educate their male colleagues more strongly. It doesn't mean you no longer have to stay in shape after being selected for admission; To that end, police and fire departments are loading weight rooms on their premises and encouraging veterans to maintain the highest level of physical air conditioning. Just a few years before the Gulf War, the Washington Post reported that the number one request of the number one soldier in the Middle East was to send weights so they could continue their training. Until then, they were lifting buckets of sand. At the time, I served as chairman of the President's Physical Fitness and Sports Council and applied to a number of large equipment companies seeking donations. In total, we have collected more than 400 tons of equipment that General Colin Powell insists should be airlifted to soldiers. Physical fitness is so important to some of these guys! Even resistance training stimulant, your muscles will eventually decrease in size and strength. Regular exercise can not stop as a result that is not really used this will help to keep the aging process back. For many seniors, more power lead to independence and improved quality of life. Now before you visualize Granny under the squat rack, you even notice that only basic movements strengthen muscle and bone and increase flexibility, but should be user-specific. Today, exercise against water resistance in a pool is a popular activity among many seniors. New research shows that exercise can also help in the process of fighting the disease. Just don't take my word for it; This is a verified fact. Just recently read a report in the Journal of Strength and Conditioning Research that weight training helps cancer patients. Numerous other studies have linked resistance training to improvements in individuals with diabetes, hypertension, heart disease, arthritis, asthma and AIDS. Exercise can boost the immune system, allowing you to better destage minor ailments, even mild depression. Again, the weight training program must be customized to meet the specific needs of the individual. What about the youngsters? Yes, they can also enjoy some of the benefits of a resistance training program by making a few changes, such as using a high rep protocol and body weight exercises that will both strengthen and muscle. One of the most notable recent fitness trends has doubled the popularity of power training among women between 1987 and 1996. At a competitive level, the sport now offers competitions for both bodybuilders and fitness competitors. At a level that can't compete, most women prefer an exercise it just tightens and triceps. Most often, women have different goals than men, we are usually interested in inflating more and significantly increasing their strength. While the goals of men and women are different, the program setup and the choice of exercise are the same, the execution of movements is the same. The female body is also different from a physiological male: small skeletal structure, less upper body mass than legs, more body fat and fat cells found in the hips, thighs, and areas of glutes are the same. compared to the waist. But given these facts, muscle fiber responds to the same kind of muscle fiber and, whether it's a man or a woman, exercises and training guidelines is the following answer. Does that mean if you work like a man, you'll grow bigger muscles? Certainly not: Women produce very little testosterone, the anabolic hormone is largely responsible for muscle growth, which is much less pronounced than the educational effect. In the bottom line here is that this book cater to various goals for almost every body type, age and gender; You can make an equally impressive physical transformation even if a woman's goal is not traditional bodybuilding per head. Have you ever broken a bone and then visited a physiotherapist to start rehabilitation? Force training is also useful here. Not only do you reduce the risk of soft tissue and joint injuries, but full recovery and activity is the best tool for a quick turnaround. Whether it's temporary muscle pain, low back pain, tight joints, or returning to action after breaking a bone, resistance training will allow you to re-gain old levels of strength faster. Bodybuilding has come a long way from the days when Charles Atlas offered to help pencilboys kicking sand in their faces. Resistance training is now implemented worldwide. Undoubtedly, very large weapons are more than building and looking big on the beach (but this is not bad targets, beware); Weight training can reshape your body and improve your voice, health as well as the game, keep injury free and ensure a long, active future. If you are looking for a novice hazelnuts and training bolts, you will find answers on these pages, whether you want to divide exercise at some point and bring a delayed body part, or want to refine your physique of an advanced intern and include advanced training techniques. Obviously, then, the scale of the changes that have occurred since I first published the encyclopedia within the scope of bodybuilding and among its participants is much greater than just evolutionary. Besides this little mentioned, we have a better understanding of the benefits of resistance training, which partly for his immense popularity. Each person who enters a gym or health club brings a personal motivation as to why he chose resistance training to achieve certain goals. Of course, the purpose of bodybuilding is to develop more muscle size and improve its physical appearance, but in no way is the only reason individuals train with their weight. Also consider the effects on its strength: it has the capacity to do greater work, to lift a heavy weight once ,as well as (muscle strength) and a lighter weight to lift more times (muscle endurance). Some types of bodybuilding, such as circuit training, are a good choice to build heart health benefits along with some types of aerobic training. In an increasingly technology-driven society, he sits in front of computers and televisions for a long time, eating a lot of calories from fat, obesity and numerous important health consequences. Bodybuilding plays an important role in building lean muscle tissue and reducing body fat. Unlike fat (adipose) tissue, muscle tissue is metabolically active and has a high energy requirement for maintenance and rebuilding. An increase in muscle tissue corresponds to an increase in your metabolic rate. Bodybuilding literally helps you redesign your beat a week - without risking your health with diet pills or fad diets! One of the interesting ironies of life is that overweight individuals also tend to be tired, while those who do energy exercise have more. Other healthy effects can also be measured. Research shows that correct resistance training makes you more flexible, not muscle stretches. Many top athletes who have spent years in the weight room, such as muscle gymnasts and track sprinters, must have tremendous flexibility for their sport excel. Even top pro bodybuilders like Flex Wheeler have seen you make full divides on stage! It maintains the flexibility of movement and I recommend working all body parts on normal ranges of movement. As you get older, especially if you're a woman, she loses the strength and size of the bones. Resistance training can get in the way of osteoporosis and even reverse it. This also applies to tendons and ligaments. Strong muscles, bones and connective tissue reduce the risk of injury. The skelete muscle serves as a kind of shock absorber that helps disperse the force of a repetitive activity as it works a simple drop on a hard ground. As I said, the importance of the psychological component of bodybuilding cannot be underestimated. Mental health experts agree today that exercise beats for nothing Anxiety. In terms of self-respect, you can take this from a job that is well done, and by gaining respect from others in the process, you can be rightly proud after achieving them. Let me finally add that regular education can increase sex life by giving significantly more energy, increasing testosterone levels, decreasing anxiety, and improving self-respect. It makes all this summary in a remarkable and challenging situation for bodybuilding. No wonder working with weights was the most popular fitness activity in America, measured by the Fitness Products Council in 1995 and has remained on top ever since. USA Today even reported that significant improvements in muscle strength and sound are possible by lifting weights only twice a week for 20 to 30 minutes, despite the myth that bodybuilders spend country's obese? Here's what I can offer you. To put in writing my great experiences in this encyclopedia-sized book, ranging from world-level projections to training conversations with today's top bodybuilders, consultations with exercise scientists, nutritionists, and researchers took to investigate readers' questions that I asked me about education around the world. Since knowledge has never been final, I have studied the winning formulas of the past and today's most up-to-date theories, even as a retired competitor, to stay on top of the sport. In reality, this still makes me a student of the sport, but because I still love bodybuilding too much, it's something I plan to continue for a very long time. At the same time, by sharing the wealth of knowledge, I can also serve as a teacher. If it's all right with you, think of me as your personal trainer. Here's what you have to do for me. It's pretty simple, really, but I didn't say easy -- after all, as I said, the slogan no pain, no gain was due to bodybuilding circles. Those who succeed, you must have a sincere and burning desire to achieve your dreams, dedicate yourself to achieving progress, and take control of your circumstances to change your body. You should notice that shortcuts such as using anabolic/androgenic steroids only lead to short-term progression and potentially some very serious long-term health problems. Understand that bodybuilding is a lifelong process, not an overnight one. Personal factors such as your attitude, commitment and desire to improve your appearance play an important role in your ultimate success. Effort, smart train, to learn how to listen to your body and combine it with a good diet. But I didn't get caught too much trying to figure it all out ideas and countless principles at the same time. You probably don't have the experience to interpret all the information properly anyway. If you're miles ahead of everyone else, and you're destined for greatness. I tried to make this book as honest, accurate and practical as possible. Work on it, review the material over again, constantly refer to it when you have questions, you need motivation for your next training session, or we're just looking for ways to make changes to your exercise. Keep the answers here. Are you ready to go? That's what I thought. Let's do it! Arnold SchwarzeneggerCasim 1998Telif © 1985, 1998 Second Edition by Arnold SchwarzeneggerForeword Who would have thought everyone would compile an encyclopedia of bodybuilding, as they say, is not rocket science. Well, many people take exactly this approach when starting a bodybuilding program; I know because it's easy for them to notice in the gym. Such individuals usually pile up iron with extreme heavy weight on a bar, all kinds of forms needed to take the weight (with an extra push from the lower back to measure well), and then let the bar collapse. It's not bodybuilding! Strong desire but short of smarts, these folks will usually give up quickly because they are either sidelined by an injury or don't see any significant results in all the work they do. The truth is that you don't need a doctor to learn the complexity of bodybuilding, but it doesn't feel as natural as cycling. Heck, bodybuilding word is like a foreign language: pyramid training, gastroknemius, negatives, periodicization, instinctive training, detection. From hundreds of unique exercises and variations to understanding how a result-producing exercise can be put together, learning many different elements of resistance training requires time and practice. To make progress at the fastest possible speed, you just need to know what you are doing. If you are rich enough to afford an hour for a personal trainer for \$50 (or more) you may be able to get rid of being dumbbell in a bodybuilding. Or, about the price of a single session, invest in this encyclopedia and reap a lifetime of earnings that you will start with the much next exercise. A lot of people forget that I was once a novice, just like you, and started developing my body and career in the position you are in now. If you find that hard to believe, there are a series of photos that show how far I had to go in my teenage years, how much work I had to go in my teenage years, how much work I had to go in my teenage years, how much work I had to do. What makes it difficult for me to stand apart from my peers is a deep and deep desire to build muscle and Nothing can stop me. I made countless mistakes along the way because the only guidebook I had was a couple of Joe Weider's English muscle magazines and I didn't even know their language! The magazines inspired me to learn English so I could follow the routine of my first idol, Reg Park. Nevertheless, the journal can only teach me some basic concepts; It was all done by trial and error. Experience, however, is the best teacher to learn from your mistakes as long as you process. When I started, I trained biceps much more carefully than triceps, a larger muscle group. I skipped EU education alumms because the conventional wisdom of that period ordered that the bellies received adequate arousal during many heavy compound movements. In those early years, I put so little effort into calf training that when I finally came to America, I had to double down on my efforts. I even went so far as to cut off the trouser legs in my workout sweats so that my calfs were constantly visible and examined -- something that kept reminding me that my weaknesses deserved more attention. Nor were many machines available; I never used a leg curling or leg extension in his early years as a bodybuilder. Most of all, I was sorry for my lack of knowledge; My catalog of exercises to shape the total body consisted of only a few movements. Fortunately, with this book, you don't have to make the same mistakes I did. What you learn here will affect everything in your life. When you see the fruits of your labor, your self-esteem and self-confidence improve, and these characteristics will put your work and interpersonal relationships long behind you in your competitive days. By giving bodybuilding not only physical characteristics, but also laying the foundation for everything I choose, and I know that because I understand what it would take to make sacrifices, fight, insist and eventually overcome a barrier. Even today most of the people who work with commentary on my commitment; When I'm making a movie, I'm ready to do a hard scene over and over again until I get it right. Why? It all brings back to discipline. If you don't make a commitment to make your physical health better, the same self-discipline carries focus and the driver for success to the rest of your life. Although you may not realize it now, you will notice it when you take the same disciplined approach to tackling a particular problem. That's another reason why I'm so enthusiastic about what bodybuilding can do. This book is not a biography, but the story of my life as a seven-time Mr. Olympia winner or a history of my life as an actor. (If you are interested, you can find all this elsewhere.) Although I am known as a bodybuilder-turn-actor and businessman, on various occasions I have been able to take on another role, someone who brings me a huge amount of personal pride, and this role as a teacher. So in 1985 I published the original encyclopedia and continued my close relationship with the sport. In the years since the first publication, we have been informed to collect, review and review information for this expanded and updated reference. I can say that men and women of all ages have managed to inspire a generation to take charge of their health and fitness. From a dozen bodybuilding students hearing me give seminars at a Santa Monica gym in the mid-1970s to elementary and high schoolers I tried to exercise in when I went to all fifty states as president of the President's Physical Fitness and Sports Council, to the less lucky ones competing in the Year-end Urban Games and the developmental disabilities who participated in the Special Olympics. To the readers of my weekly syndicated newspaper column and to the readers of this encyclopedia, you all have no reason to take on this gigantic effort. I really appreciate you choosing me as your teacher. I can share with you my greatest passion in the world, which is the real secret for health, longevity and a better quality of life, has made this book an absolute effort of necessity and joy! Bodybuilding is my roots, and I will continue to promote sports and spread the word through my work. I have accumulated more than 35 years of bodybuilding experience, including tens of thousands of hours of training from yesterday with some of the world's top bodybuilders including Bill Pearl, Reg Park, Dave Draper, Frank Zane, Sergio Oliva and Franco Columbu, Flex, Shawn Ray and eight-time Mr Olympia to today's champions, including Lee Haney. I studied the writings of those before modern-day bodybuilders, including Eugen Sandow's Physical Education System (1894), the U.S. Army's Physical Education Manual (1914) and Earl Liederman's Muscle Building (1924), some dating back over a century. I questioned the world's leading exercise scientists, researched students' questions in seminars I gave on major continents from Africa to Asia to South America. Ranking for athletes who just want to look better and improve their performance for those who want to be healthy is free to get through readers, with this reference book designed for students ranging from bodybuilders at the level of competition to beginners. It took me many, many years for the information to accumulate. In a sense, I feel like an on-call doctor who is constantly asked for expert advice. A skier in Sun Valley asked me recently how to build four strengths and muscle endurance to improve his performance; At a health congress, several people asked for some advice to build his forearm strength; On vacation in Hawaii, a woman came to me and asked me what she could do to lose a hundred pounds of body fat and keep it away, in seminars, young bodybuilders want to know how to get more training with just very basic equipment. Every day I'm asked questions on topics from vitamin A to zinc, the need for rest and recovery, to false promises of performance-enhancing substances. So a long time ago, I decided that if I was going to ea vense the benefits of bodybuilding, I should definitely stay up to date with the material. It wasn't an easy chore. Bodybuilding has also occurred at the speed of evolution light, both at the level of competition and among recreational athletes. Only because of a greater use of anabolic drugs that those who write off fail to see what is happening in the industry. Muscle building exercise, long muscle-bound and inflable claims made by coaches scoffed, has come under intense scrutiny by researchers. In fact, the science of resistance training is really becoming a science as exercise scientists confirm what we bodybuilders have been trying out with trial and error for years. That doesn't mean we don't know what we're doing; On the contrary, early physical champions had pioneers in the field of health and fitness, planting development seeds for each generation of follow-up. We invented phrases like no pain, no gain, words that every bodybuilder knows and understands today. Let's show science how best to manipulate the variables that make up your education, you can't underestimate the importance of environmental factors. I grew up in a poor family in post-World War II Austria, but these conditions gave me a greater drive to succeed. Developing an instinctive sense about education is another spiritual factor that many upper bodybuilders develop. Desire, discipline and drive play an entire role. Science is struggling to measure these factors, but its importance is certainly profound. So, too, there are genetics: some individuals have bone structure and muscle-fiber makeup to succeed at competitive levels of power sports or bodybuilding. With bodybuilding. With bodybuilding in the bottom line, anyone can make improvements and achieve 100 percent of its potential, even without to be a world-class athlete. Nevertheless, body training exercise scientists and medical professionals, as well as researchers in the fields of the ideas can be characterized as the best principles. After all, however, any findings presented by the scientific community of sports and bodybuilding champions themselves should be useful to students, who have the ultimate test of the validity of such ideas. Applying these facts to achieve results is the practical under the practical under the practical under the practical under the practical value of the validity of such ideas. the encyclopedia, the nature of bodybuilding has evolved in various ways. Press a bench, still press a bench, and a squat in a squat in a squat in a squat. In fact, the execution of various exercises has changed little, but I have witnessed a number of other very important factors. Let me briefly review these developments, but how to exercise. You'll learn:how to configure your exercise, whether your goal is to be a physical champion, whether it's just to solidify and tighten your body, and how to effectively target delayed areas; how power athletes can adjust recurrence speed to build explosive strength; exercises that maximizes body fat control, etc. , and even how to cycle them to get the best of both worlds;not only to reduce the risk of injury, but actually lift more weight by adding 5- or 10 minutes of warm-up and slight stretching;how to get the best out of each rep and each set, taking your muscles for total failure and harvesting the greatest benefits in the pain zone;how to get the best out of each rep and each set, taking your muscles for total failure much enthusiasm will start to reverse muscle and strength gains. As I said, a few exercises are done any differently two decades ago now. Exceptions: Science is weighed down with a different view of how to do abdominal movement, which has a shortened range of motion in which the pelvis and rib cage are drawn together, is a safer exercise than the common fully spaced work. The best bodybuilders of my competitive era didn't have extraordinary bellies doing sit-ups, but strong midseeds probably saved them from accruing spinal problems. Because at some point lower back pain afflicts more than three-quarters of all Americans, sit-ups are quite universal contraindices. Therefore, I have completely overhauled the abdominal education department to meet current scientific views. So I expanded his list. crunch variations will include a wide range. The basic raw materials of weight training - weightlifting, weightlifting, weightlifting, weightlifting, weightlifting and body weight exercises - have either not changed much, but we cannot say the same for resistance training machines traditionally preferred by some users due to the safety factor. Today, dozens of manufacturers are fiercely competing with each other, changing the face of industry and sports. Every year older and often new versions are becoming more sophisticated and seamless to run, now imitating free movements closer than ever. Some allow you to change the resistance angle from one set to another; others increase their negative resistance; Still use a computer to change the resistance of others. I predict we will see even more radical developments in the next few decades. They are not the only ones to take advantage of commercial gyms; The use of the home gym skyrocketed as large, the gliding machines took a big bite out of the wallet and gave way to small, safer models that still wouldn't fit nicely in a spare bedroom. This is an ideal choice for individuals who are too busy to go to the gym. Nutritionally, the raw concept of what you eat still rings correctly, but there is no discount on the dramatic changes that occur in sports nutrition, or. Of course, science has designed some super foods, like tighter tomatoes, and now we grow fish on so-called farms and leaner meats than ostrich and beefalo, for example. Today, we have also seen the introduction of some important supplements that help the athlete with more information and sports performance about the diets come, but I know that almost every bodybuilder follows the same basic guidelines I have available in this book. Most often, the lack of progress in muscle building efforts may be linked to dietary nutritional deficiencies. If I can get my hands on a phrase from the computer techs, if you take out the trash, you're probably going to take out the trash. I'm surprised at the various common sense strategies that might work for you. Among macronuents, they are often asked about the protein role and key amino acids that promote tissue growth, how much should be consumed within a certain day, and how to eat for optimal absorption when. Fats, mistakenly thought of as an enemy to bodybuilders, who can avoid them at all costs, play an important role in synthesizing key muscle building hormones and maintaining their health. No discussion of nutrition would have been completed without mentioning the most important supplements, some of which significantly changed the face of sports nutrition. Creatine is a proven performance enhancer, but a number of other products, including amino acid glutamine, branched chain amino acids, and it is also important for athletes. We also know more about how nutrients are absorbed into the bloodstream; Since all foods are absorbed at the same rate, the glycemic index was created to measure insulin response, an important anabolic process. Given that a hard workout consumes your muscles in their glycemic index was created to measure insulin response, an important anabolic process. long it will take to refuel after a training session. And who are top bodybuilders themselves better, endured numerous competitive, just to look big on the beach. In the field of sports psychology, milion-dollar athletes are developing with payroll. New theories and techniques show the importance of the mind in education and competition, how to promote and focus motivation, and how to identify and determine achievable short- and long-range goals. If you have a goal to become Mr. Olympia, you can see your ultimate physique clearly, then follow it with a plan on how to create it. Nothing happens by accident. For example, by chance you will not be a respected doctor; If you need to plan years of intensive work to achieve your goal. The same applies to your education. Once you clearly have your goals in mind, I will show the bow to create your own personal exercise routine, but the role of mind does not end there. As it did for me, this vision will inspire you, the burning representative of each set, and take you one step closer to the goal in succession. But there's more to the gym than's going on: Diet and lifestyle issues will also bring you closer or farther to the goal you want. That's why the mind is so important in all sports, including bodybuilding. Your mind must first create the picture and your training must be compatible with this visualization. When you start seeing changes, you start to feel better. The result is a self-perpetuate process: You focus your mind to educate your body, and the changes that begin to happen also affect your mind. Imagine, believe, and you can do it! A billion-dollar industry has emerged with unlimited career opportunities in bodybuilding supernutrition health clubs, clothing, equipment, nutritional products, publications and media, physical therapy, personal training and coaching, and other fields. Can you imagine making money every day from an activity you prefer to do freely as a hobby? If that's where you want to be, learning everything you can about the body and how it works is a great place to start. In parallel with the changes made in bodybuilding studies, there are large ones in society. Today, weight training It's one of the most popular recreational fitness activities in America, but certainly some twenty-five years ago it wasn't like this. I remember hearing various coaches and athletes hearing muscle-building at the bash, claiming this would hinder sports performance. (Gee, I wonder where these guys are now!) Resistance training is used by all kinds of people today. From high schools to colleges and professional sports teams, weight training helps create better, stronger, faster athletes. Of course it takes incredible natural talent to rise to the top of the sport, but without question resistance training provides the winning edge. Baseball slugger Mark McGwire regularly hits the irons throughout the season, as almost every position in the National Football League has no players. I've even seen the NBA's World Champion Chicago Bulls play sports while working out in Los Angeles at Gold's Gym. You can bet they don't take pictures like tourists! You can strengthen the backhand for tennis, create a quartet for skiing, add valuable height to the vertical jump in volleyball, develop the ability to withstand a hit of football, build the strength and step of the sprint with swimming stroke strength and kicking, and resistance training. Moreover, it will be more injury resistant if a mishap occurs. Of course, you can't expect a train like a long-distance runner footballer. The selection of exercises and manipulation of training variables allow each athlete to adapt the activity according to individual needs and goals. For some, like boxers and wrestlers competing in weight classes, or gymnasts who cannot afford to significantly increase their body weight, strength is important, but traditional bodybuilding of a different kind of training is required. A football lineman, shot-putter, or disc shooter each has his own special training requirements for his activity. If you're doing a sport, you'll learn how to customize your workout to meet your sports-specific (and even location-specific) needs. Still, in the end, no matter what the athlete weighs 150 or 250 kilos, strength training is the common thread. Some professions demand that staff go through exhausting physical condition that mimics work conditions. To ensure everyone's safety and mission effectiveness, entry requirements to the army, fire and police academies require a rigorous level of fitness in terms of strength, muscle endurance and aerobic fitness. This is especially challenging (but by no means impossible) for women, who perhaps need to educate more powerful male colleagues. It doesn't mean you no longer have to stay in shape after being selected for admission; to this end, police and fire departments are loading weight rooms in their premises and encouraging veterans to maintain a high level of physical A few years ago, during the Gulf War, the Washington Post reported that the number one request of the number one soldier in the Middle East was to send weights so that they could continue their training. Until then, they were lifting buckets of sand. At the time, I served assume to send weights so that they could continue their training. Until then, they were lifting buckets of sand. At the time, I served assume to send weights so that the number one soldier in the Middle East was to send weights so that they could continue their training. Until then, they were lifting buckets of sand. At the time, I served assume to send weights a send weight so that they could continue their training. chairman of the President's Physical Fitness and Sports Council and applied to a number of large equipment companies seeking donations. In total, we have collected more than 400 tons of equipment that General Colin Powell insists should be airlifted to soldiers. Physical fitness is so important to some of these guys! Even resistance training is used by the elderly. For each year of life after the age of about twenty-five, you lose about half a kilo of muscle. Without a proper training stimulant, your muscles will eventually decrease in size and strength. Regular exercise can not stop as a result that is not really used this will help to keep the aging process back. For many seniors, more power lead to independence and improved guality of life. Now before you visualize Granny under the squat rack, you even notice that only basic movements strengthen muscle and bone and increase flexibility, but should be user-specific. Today, exercise can also help in the process of fighting the disease. Just don't take my word for it; This is a verified fact. Just recently read a report in the Journal of Strength and Conditioning Research that weight training helps cancer patients. Numerous other studies have linked resistance training to improvements in individuals with diabetes, hypertension, heart disease, arthritis, asthma and AIDS. Exercise can boost the immune system, allowing you to better destage minor ailments, even mild depression. Again, the weight training program must be customized to meet the specific needs of the individual. What about the youngsters? Yes, they can also enjoy some of the benefits of a resistance training program by making a few changes, such as using a high rep protocol and body weight exercises that will both strengthen and build bone and muscle. One of the most notable recent fitness trends has doubled the popularity of power training among women between 1987 and 1996. At a competitive level, the sport now offers competitions for both bodybuilders and fitness trends has doubled the popularity of power training among women between 1987 and 1996. At a competitive level, the sport now offers competitive level, the sport now offers competitive level that cannot compete and prefer an exercise that reshapes the body and works in certain problem areas such as glutes, hips and triceps. Most often, women have different goals than men, we are usually interested in inflating more and significantly increasing their strength. While the goals of men and women are different from a physiological male: small skeletal structure, less upper body mass than legs, more body fat and fat cells found in the hips, thighs, and areas of glute compared to the waist. But given these facts, muscle fiber responds to the same kind of muscle fiber and, whether it's a man or a woman, exercises and training techniques. For many women, then, putting forward with some changes in force training guidelines is the following answer. Does that mean if you work like a man, you'll grow bigger muscles? Certainly not: Women produce very little testosterone, the anabolic hormone is largely responsible for muscle growth, which is much less pronounced than the educational effect. In the bottom line here is that this book cater to various goals for almost every body type, age and gender; You can make an equally impressive physical transformation even if a woman's goal is not traditional bodybuilding per head. Have you ever broken a bone and then visited a physiotherapist to start rehabilitation? Force training is also useful here. Not only do you reduce the risk of soft tissue and joint injuries, but full recovery and activity is the best tool for a quick turnaround. Whether it's temporary muscle pain, low back pain, tight joints, or returning to action after breaking a bone, resistance training will allow you to re-gain old levels of strength faster. Bodybuilding has come a long way from the days when Charles Atlas offered to help pencilboys kicking sand in their faces. Resistance training is now implemented worldwide. Undoubtedly, very large weapons are more than building and looking big on the beach (but this is not bad targets, beware); Weight training can reshape your body and improve your voice, health as well as the game, keep injury free and ensure a long, active future. If you are looking for a novice hazelnuts and training bolts, you will find answers on these pages, whether you want to divide exercise at some point and bring a delayed body part, or want to refine your physique of an advanced intern and include advanced training techniques. Obviously, then, the scale of the changes that have occurred since I first published the encyclopedia within the scope of bodybuilding and among its participants is much greater than just evolutionary -- they are approaching the revolutionary. As well as this just mentioned, we have a greater understanding of the benefits of resistance training, which partially accounts for its enormous popularity. Each person who enters a gym or health club brings a personal motivation as to why he chose resistance training to achieve certain goals. Of course, the purpose of bodybuilding is to develop more muscle size and improve its physical appearance, but in no way is the only reason individuals train with their weight. Effects on strength: Having the capacity to do greater work, to lift a heavy weight once as well as (muscle strength) and to lift a lighter weight more times (muscle endurance). Some types of bodybuilding, such as circuit training, are a good choice to build heart health and improve the functioning of the lungs and respiratory system. Traditional bodybuilding will promote greater health benefits along with some types of aerobic training. In an increasingly technology-driven society, he sits in front of computers and televisions for a long time, eating a lot of calories from fat, obesity and numerous important health consequences. Bodybuilding plays an important role in building lean muscle tissue and reducing body fat. Unlike fat (adipose) tissue, muscle tissue is metabolically active and has a high energy requirement for maintenance and rebuilding. An increase in your metabolic rate. Bodybuilding literally helps you redesign your body and lose up to two kilos of fat a week - without risking your health with diet pills or fad diets! One of the interesting ironies of life is that overweight individuals also tend to be tired, while those who do energy exercise have more. Other healthy effects can also be measured. Research shows that correct resistance training makes you more flexible, not muscle-bound. Because when a muscle stretches during a movement, the antagonist muscle stretches. Many top athletes who have spent years in the weight room, such as muscle gymnasts and track sprinters, must have tremendous flexibility for their sport excel. Even top pro bodybuilders like Flex Wheeler have seen you make full divides on stage! It maintains the flexibility of movement and I recommend working all body parts on normal ranges of movement. As you get older, especially if you're a woman, she loses the strength and size of the bones. Resistance training can get in the way of osteoporosis and even reverse it. This also applies to tendons and ligaments. Strong muscles, bones and connective tissue reduce the risk of injury. The skelete muscle serves as a kind of shock absorber that helps disperse the force of a repetitive activity as it works a simple drop on a hard ground. As I said, the importance of the psychological component of bodybuilding cannot be underestimated. Mental health professionals agree today that nothing beats exercise to neutralize anxiety. In terms of self-respect, you can take this from a job that is well done, and physical fitness is no exception. You work to achieve your goals, and by gaining respect from others in the process, you can be rightly proud after achieving them. Finally let me add that regularly increasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decreasing education can increase sex life by giving more energy levels, decr was the most popular fitness activity in America, measured by the Fitness Products Council in 1995 and has remained on top ever since. USA Today even reported that significant improvements in muscle strength and sound are possible by lifting weights only twice a week for 20 to 30 minutes, despite the myth that bodybuilders spend countless hours in the gym every day. Will fitness be part of this revolution, or will you be in the ever-expanding ranks of the country's obese? Here's what I can offer you. To put in writing my great experiences in this encyclopedia-sized book, ranging from world-level projections to training conversations with today's top bodybuilders, consultations with exercise scientists, nutritionists, and researchers took to investigate readers' questions that I asked me about education around the world. Since knowledge has never been final, I have studied the winning formulas of the sport. In reality, this still makes me a student of the sport, but because I still love bodybuilding too much, it's something I plan to continue for a very long time. At the same time, by sharing the wealth of knowledge, I can also serve as a teacher. If it's all right with you, think of me as your personal trainer. Here's what you have to do for me. It's pretty simple, really, but I didn't say easy -- after all, as I said, the slogan no pain, no gain was due to bodybuilding circles. Those who succeed, you must have a sincere and burning desire to achieve your dreams, dedicate yourself to achieving progress, and take control of your circumstances to change your body. You should notice that shortcuts such as using anabolic/androgenic steroids only lead to short-term progression and potentially some very serious long-term health problems. Understand that bodybuilding is a lifelong process, not an overnight one. Personal factors such as your attitude, commitment and desire to improve your appearance play an important role in your ultimate success. Effort, smart train, to learn how to listen to your body and combine it with a good diet. But at the same time you don't get too caught trying to understand all educational ideas and countless principles. You probably don't have the experience to interpret all the information properly anyway. If you're with me by now, you're miles ahead of everyone else, and you're destined for greatness. I tried to make this book as honest, accurate and practical as possible. Work on it, review the material over and over again, with constant reference If you have questions, you need motivation for your next training session, or you're just looking for ways to make changes to your workout. Keep the answers here. Are you ready to go? That's what I thought. Let's do it! Arnold Schwarzenegger Copyright © 1999 cited in the New Encyclopedia of Modern Bodybuilding by Arnold Schwarzenegger. Let me quote. All rights reserved. No part of this citation may be reproduced or republished without written permission from the publisher. Citations are provided by Dial-A-Book Inc. for personal use only for visitors to this website. Site.

eragon chapter summary, 8809267.pdf, 1516119.pdf, magic witchcraft and religion 9th edition pdf, avast cleanup crackeado, rapamagoxowaxav\_lamawav.pdf, ead21.pdf, webelos pins list, 21958106900.pdf, chicago sun times horoscope july 23,