FIFTY SHADES OF BODYBUILDING

Preface

I’ve always been a bodybuilding enthusiast. Since childhood I’ve admired these sculptural bodies, which gave me a sensation of omnipotence, as if they were the missing link between a man and a titan (it was not a coincidence that my favorite cartoon was Hercules!).

Despite all of this, I’ve kept my distance for years from practicing sports and I’ve never liked the competition in them, since I see it as a very “toxic” behavior in a physical activity.

Everything changed when, at the age of 15, I went inside a gym for the very first time.
It was love at first sight. The sound of the cast iron discs hitting the ground, the exciting and non-competitive environment and feeling good after the training session made it possible for me to consider the gym my second home.

During high school I had the chance to experiment a lot on myself and on my friends at school. I was training them for free, almost just for fun, but also to improve my skills and knowledge.

I was determined to deepen my knowledge about fitness, therefore I decided to study at the S.U.I.S.M. University in Turin. I graduated after three years. In this period of time I had the opportunity to work closely with many professionals on the field, which helped me enormously to grow professionally.

I was really pleased with my job, but one thing was upsetting me. Everywhere I went, from the best and most renowned gym to the smallest and unknown one, people were making always the same mistakes, bad execution of the exercise, wrong posture, wrong fitness notions and so on.

As good as I can be as a trainer, I’m not omnipresent. Soon I understood that the only way to cure this “evil” was to spread my knowledge to the highest number of people by gathering all my notions and advices in this little guidebook.

CHAPTER 1

METHODS AND SOLUTIONS

NOTION N° 1

Monofrequency and multifrequency are both good but they need to be put into a context.

Lately it has become mainstream the idea that there is actually a “battle” between monofrequency and multifrequency, as if one would have to decide to follow only one of them. As previously said, one isn’t better than the other, but they need to be used in different periods of time.

For example, if we have been idle for a long time or if we have just started training in the gym than it’s better to opt for a multifrequency/full body program. Since we repeat the exercise many times a week, we’ll recover our muscle tone much faster, we’ll also be able to lift heavier and learn the technique in less time.

If our goal is to develop a good training load and improve the hypertrophy through medium-low reps training, then multifrequency does the trick. We’ll be able to repeat the exercise more times by reducing the muscle failure, therefore we’ll improve the technique, the muscle recruitment and learn to better manage the load.

Monofrequency training is the best choice if we aim to improve hypertrophy through a medium-high reps training.
This kind of training is more voluminous as well as more fun and “light” and very useful after a period of strength training. In fact, we’ll be able to keep lifting the same weights of the previous mesocycle and to break the monotony and boredom of the long resting periods in between the sets and we’ll be able to reach a greater muscle “pump”.

If we would have to make a general division between the two techniques, we could say: multifrequency helps to lay the foundation to develop muscular hypertrophy while monofrequency exploit them; Both generate hypertrophy but if used together the will increase the result.

NOTION N° 2

There is no specific duration for a training schedule.

One usually has to change his or her training schedule in the gym every 4 or 6 weeks.
This is surely the most known “rule” in the fitness world, but does it make sense? Yes and no.

It clearly has sense in commercial terms since the clients see the training schedule as a service they bought; Try to not change the schedule to your athlete after the next check: he or she will feel tricked and robbed and will often change instructor.

It’s up to us trainers to let the athlete understand that he or she is not paying us for a piece of paper but to accomplish a goal, thanks to a service which includes checks, assistance, nutritional advices and training schedule. If the training is showing good results (the loads are increasing, we’re having fun and the body fat is decreasing) does it make sense to change it? Probably it doesn’t.

We can still make some little changes but we have to be aware that we’re on the right track.

To upset a training schedule that is showing good results is one of the most common and dumbest mistakes that a person can do in the gym.

NOTION N°3

There is no perfect frequency of training sessions, it depends on several factors.

How many days per week should I train? Two days? Maybe is even better three days a week, for example Monday, Wednesday and Friday.

Reality is that there is no magic number. Our experience and life outside the gym will always influence our frequency of training sessions.

If somebody that has been training for 10 years in the gym wants to increase their own muscle mass they'll need a stronger stimulation in comparison with someone that has been training for 3 months. The usual 2 or 3 training sessions a week won't be enough, especially if hypertrophy is the goal. By time we'll be able to bear more and more training volume, which means:

- We have to increase the duration of the training session (this choice is the less effective since after 1.30h / 2h we lose focus and energy).

- We have to add more training sessions during the week (this choice is the most effective since we'll be able to focus more on a specific muscle group or technique).

If you think about it you'll discover that it's pretty obvious. Imagine to manage a construction company in which the work is proceeding at a very slow pace, but you have a limited number of workers that are working 8 hours a day 3 days a week.
How would you behave? Would you choose to work 7 hours a day for 5 days a week or 3 days only but each with 12 hours of working?

In most cases the best choice would be the first option.

Before increasing the hours or the days make sure the workers (muscles) are working correctly (technique) and are not wasting time (intensity). Sometime one just need to be scolded (regaining focus) to improve the situation.

NOTION N°4

It’s a very useful strategy to organize the exercises according to your priorities.

It surely make sense to train big muscle groups before the small ones and it should be done for most of the year.

The problem comes when this advice becomes a dogma, pointing out as ignorant whoever is against the tide for some periods.

If we train first big muscle groups like chest or back or quadriceps throughout a year or even our entire life, it will be obvious that we’ll create a muscular imbalance in our body.
In fact, some muscle groups will never be trained to their full potential leaving them underdeveloped.

Here a practical example:

The 80% of people who have always trained chest and lats at the beginning of their training session will develop a pronounced shoulders’ anteposition. This happens because these two muscle groups drag forward the shoulders, while the muscle groups which have the task to bring them in a neutral position will always be trained when already exhausted.

In this case we could apply an intelligent solution, which consist in adding exercise for the rotator cuffs, the mid traps and for the posterior deltoids. Even if these muscles are smaller they have a higher priority.

We have to organize the training according to our needs, not vice versa.

NOTION N°5

It is imperative in bodybuilding to be strong even in isolation exercises.

Differently from powerlifting, where the final goal is to increase the strength specifically in three exercises, bodybuilding aims to build strength not for the exercise but for the muscle.

Let's explain it with some examples:

1) Powerlifter: bench press 5 reps with 100kg / dumbbell chest fly 8 reps 14 kg each dumbbell.
2) Bodybuilder: bench press 5 reps with 90 kg / dumbbell chest fly 8 reps 22 kg each dumbbell.

Considering the execution to be the same in both cases, who will have a more developed chest? Most likely the bodybuilder.

In the first case we have the weight distributed mainly on two joints (elbow and shoulders), this will inevitably create a less specific and more general muscular recruitment. In fact, triceps, lats, anterior deltoids and many other muscles will all take part in the performance.
In this case we can imagine the joints as bridges that allow workers (muscles) to go to the aid of another fellow worker (target muscle).

Instead, in the second case the weight is distributed mainly on one joint (the shoulder), which means that the muscle recruitment will be more specific.
In this case we have to imagine that, by closing one bridge (this means

we’re excluding one joint), less workers will be able to go to the aid of the other worker (target muscle) forcing him to spend more energy.

In bodybuilding strength is just another tool to develop more hypertrophy. The more this strength is specific to a muscle the more we’ll able to hit the target muscle.

ATTENTION! However, it is important to keep doing a certain amount of compound exercises, because, besides being less stressful for the joints, they generate a bigger systemic muscular stimulation.

NOTION N°6

It is <u>essential</u> to control the breathing during an exercise.

Breathing helps us to control the gas exchange between our body and the surrounding environment as well as playing a key role in weightlifting.

First thing first we have to consider the respiration as our biological metronome: it gives us time and a rhythm which will help us to execute the exercises in the most homogenous way possible.

Secondly, if we manage breathing correctly, we will be able to delineate the deficient points of the lift and, by adjusting the intensity of the expulsion of the air, overcome them faster.

To make the most of it, we need to remember two things:

- Inhale during the negative phase of the movement.
- Exhale during the positive phase of the lift, when the effort is greater.

ATTENTION! Remember not to expel the air all in one breath or to do the repetitions in apnea. Start considering air as the fuel you have during the single repetition, therefore manage it as such.

NOTION N°7

The scapulohumeral rhythm is essential for the protection of the shoulder joint.

Just like in an orchestra, where the musicians, under the guidance of the maestro, must make the best use of their instruments in order to create a symphony, in the human body, the muscles, under the guidance of the brain, will have to make the best use of their joints to generate correct movement.

It may seem a trivial example, but I think it makes the idea perfectly; when one of these "blocks" does not work, the movement becomes "mechanical", clumsy and unsightly.

In this notion I wanted to treat one of the main problems that occurs in the gym, which is the alteration of the scapulohumeral rhythm.

Due to the sedentary lifestyle and to the amount of the chest exercises performed with the shoulder blades tucked and pressed on a bench, the shoulder joint will almost never work with a full range of motion, creating an incorrect movement as well as more or less serious muscle decompensation.

During the warming-up, we must focus to optimally warm up the shoulder joint and recover lost mobility through appropriate exercises and restore our scapulohumeral rhythm over time.

The best exercises in the warming-up phase are: dislocations with a broom stick, + shoulders circling in a clockwise and counterclockwise direction, the adductions with elastic at the wall bars, the external rotations and internal rotations with an elastic band and finally the Cat cow.

Then we can intensify the effort by doing some push-ups \ Trx or free-body bent over row at the Multipower \ Trx, paying particular attention to perform them in this order:

1. Adduction of the shoulder blades (pull the shoulders back).
2. Abduction of the humerus (I bend my arm towards me).

3. Abduction of the humerus (stretching the arm).
4. Abduction of the shoulder blades (bring back the shoulders to a neutral position).

NOTION N°8

Pre-activation is very useful if we want to feel a specific muscle during exercise.

Due both for structural causes (e.g. long or short femurs) and for muscle weakness or decompensations, we will certainly have more developed muscle districts than others. They will take over a primary role during the execution of a certain exercise, stepping over the 'target' muscles.
An excellent example may be the usual athlete with highly developed deltoids who struggles to feel the pectorals during the flat bench press: even if the athlete focuses on keeping the shoulders in a correct position and to isolate them, he will inevitably feel the deltoids more pumped than the pectorals.

An excellent solution, especially if you do not want to replace a specific exercise, is to insert 2-3 pre-activation series before it, in order to direct the internal load towards the target muscle.

To make the most of these series, I recommend you to perform them with a medium-high number of repetitions (e.g. 10-15), using a slow TUT * and trying to maintain a constant contraction throughout the execution. Cables, elastics and isotonic machines are ideal for this type of work.

So, if we want to make a practical example of the previous case:

Bench press 4x6 cable flyes on bench 3x15, bench press 4x6.

ATTENTION! Being a pre-activation work, we will not have to reach failure during the series or to tire us too much, but rather consider these series as a part of the warm-up, the purpose of which is to improve the perception of a muscle during a given exercise, without worsening its performance.

NOTION N°9

The peak contraction technique is excellent for improving the muscular recruitment, especially for beginners.

The people who have just enrolled to a gym for the very first time find it very difficult to feel a single muscle group compared to another, since their recruiting ability is very low. A great way to improve it is to use the peak contraction technique, especially in isolation exercises. Let’s see what this is:

At the end of the positive phase, it must be performed for a few seconds a further voluntary re-contraction of the muscle, keeping the load still. In this way, in addition to being forced to perform the exercise with a much more controlled frequency, each repetition will be aimed at improving the perception of the target muscle.

In order to have a better idea, let's use the Leg Extension exercise as an example: at the end of the positive phase, that is when we have our legs stretched out in front of us, we remain in tension and voluntarily re-contract the quadriceps, and then go back to the starting position, repeating this method for each repetition of the series. You will notice the quads deep involvement, as if the latent muscle fibers woke up.

ATTENTION! Being a method that requires a lot of focus and little load, we cannot use it too frequently: it is advisable to use it on one or maximum two exercises per session, on different muscle groups.

NOTION N°10

Isometric executions are not to be underestimated.

Repetitions with a isometric holds are of great help in developing strength. In fact, in addition to allowing us to intensify the work at a certain point of the lifts, they help us to improve the execution technique.

In general we can divide the repetitions with stop \ isometric holds into 3 categories, according to the chosen position (I will use the back squat as an example to make it easier to understand):

1. Static hold with an over-maximum load.
   This technique is very useful during a period of strength training, since we will be able to lift a load heavier than our maximum load, creating a higher neural adaptation in the organism. In the squat it is performed simply by lifting the bar from the rack and remaining standing.

2. 2- Stop at the " striking point ". Dedicating some specific series for our weakest link is one of the smartest choices you can make. Our weakness lies precisely at the point where we want to escape, or avoid it.
3. 3- Stop to improve the technique. This execution marks the points within the movement that act as a trace for an optimal execution. Do you know the "connect the dots" game? Here, more or less the same thing happens: breaking up the repetitions into several parts is as if we were creating imaginary tracks, fundamental for maintaining a correct technique, even at high intensities.

To sum up, we can say that isometric holds offer enormous advantages both for technical improvement and for the development of strength through neural adaptations and enhancements of the striking points. Needless to say, all of this, if done correctly, contributes to greater hypertrophic development.

As for the timing, I suggest you to split this technique into two different subcategories:

- Repetitions \ isometric holds between 2 ’’ and 5 ’’, ideal for technical corrections or for neuronal enhancement with maximum loads.
- Repetitions \ isometric holds >5 ’’, more suitable for muscle strengthening.

NOTION N°11

Training ‘’ to failure ” means everything and it means nothing!

Depending on the repetition rate the range and the load used, we will get different adaptations! In principle, we can divide the failure into 3 categories:

The overload of the central nervous system: usually occurs through the sudden inability to perform a further repetition. Most of the time it occurs when lifting heavy loads with low repetitions (1-5) and \ or by performing explosive executions.
If it occurs when we are doing a series of 10-15 repetitions we have probably used too heavy a load or an inadequate technique. If used too frequently, this type of muscle failure leads to an accumulation of general tiredness, due to the overload of the nervous system. You feel sleepy, lethargic and with little desire to train.
The quality of the repetitions and the loads remain almost unchanged but we can no longer tolerate an efficient training volume. In a nutshell we are cooked after 3-4 sets.
A good strategy, if we are in this situation, is to change the training either to monofrequency, not exaggerating with muscle failure, or to a multifrequency, both with medium-high repetitions in buffer.

The muscle failure: it occurs through the growing impossibility of performing a further repetition, due to the accumulation of lactic acid inside the muscle. It is a kind of “failure” that “we feel it’s coming” at 3 or 4 reps before the end of the set, and it is accelerated by a continuous tension throughout the exercise.
If used too much it leads to a delay in muscle recovery: our performance stops progressing and sometimes decreases, giving us the feeling of doing “empty” repetitions.

In general, we still manage to keep a good volume, but the loads become de-training, the focus and the pump start to get worse, going to weigh on the execution.
To get back on track, a good strategy is to go multi-frequency with buffer training at medium-low repetitions.

The technical or form failure: this category is classified as the impossibility of performing a further flawless repetition. Among the three, it is obviously what we should use the most, but this does not mean that it does not create long-term problems. This practice, if used too frequently, will lead us, for fear of dirtying the repetitions, to not increase the load on the barbell making the training more and more de-training and boring.
Some red flags are certainly the loss of determination, pump and a sense of uselessness in the session. In this case, a good strategy is to switch to a monofrequency training trying to reach muscle failure.

NOTION N°12

As we become more experienced, the real challenge is not to effectively stimulate a muscle, but rather to avoid '' destroying'' it.

Having a good technique and a good recruiting capabilities, our temptation to give it all we’ve got is very high: each repetition becomes full, profound,

rewarding and we get carried away as if suffering from a sort of addiction, until we are exhausted. This is one of the easiest traps to fall into.
Very intense training sessions require a much longer recovery than others, ending up upsetting the plans, delaying the results. We are concerned with the medium to long term, not the short term.
There is a time to dare and a time to keep the head down and "obey"; their proportion should be 1 to 10, not the opposite.

Remember that our job is not to create destructive training but a series of productive training.

NOTION N°13

Mental focus during training is essential.

How many times have you happened to see people who only move weights instead of properly training? While doing the exercise they are lost in their thoughts, they chat, they text..... in short, you'll see all sort of stuff. Needless to say, training in this way is a bit like going to fish in a swimming pool.

When you train you have to be PRESENT, you have to be mentally focused in the series, to be the series: only in this way will we be able to "give all we've got" by truly emptying the mind. At the same time, when we find ourselves in difficulty, we have to get out of this sort of mindset by self-motivating ourselves to postpone muscle failure, just as we postpone the alarm clock in the morning!

For example: "I can't any more, I need to stop now!" → "One more! One more! One more!"

We must shift the focus from pain and fatigue to what is our real task, or in this case, a further repetition. Everything else does not count, we do not need it, it is in the way!
There is no magic formula, you simply have to think with a different and more motivating approach. With self-pity and complaints, you don't go anywhere, neither inside the gym or outside.

If we're not the ones cheering on ourselves, who should?
ATTENTION! The important thing is to create a self-motivating environment, the way you create it is absolutely personal.

NOTION N°14

You have to start considering the spotter like your better half.

The spotter has a very important role to play in the gym.

Not only he has to physically assist his training partner but also to check the technique and give motivation throughout the entire series. It doesn't have to be a random person since you have to fully trust him, in fact he should be considered more like a "gym brother". One usually sees people making many mistakes in the gym and a lot of them are made by spotters.
So, in order to make things clear let's see what a spotter SHOULD NOT be doing:

1) Interfere with the trajectory of the load by touching the bar or helping even when not required. This is a huge mistake; in fact, it will alter the perception of the load and the trajectory so that it won't allow the athlete to

memorize the correct movement. No one can learn how to ride a bike if constantly kept in balance by another person. One must intervene only if necessary.

2) Pushing oneself to perform another rep at all costs at the expense of the movement. One of the spotter's tasks is to help the athlete to avoid making mistakes on the technique and not to encourage them. It is important to note that repeating "dirty reps" will worsen the quality of the athlete and, by time, increase the risk of injury.

3) Motivate you as if you were a 90 years old man. When encouraging your partner, one has to shout, inspire determination and, if necessary, to sound angry. If there's a moment where one doesn't have to be gentle well it is when we spot. The trick is to find the balance between the psychological element and the technical one.

NOTION N°15

Is it possible to develop muscle hypertrophy through cardiovascular exercises?

How many times have we heard phrases like: "by swimming your back widens" or "pedaling makes your leg bigger"?

Do these statements have a kernel of truth or are they just nonsense sentences? Even though you will never get Ronnie Coleman's back by swimming, there is a kernel of truth.

For novices, therefore highly de-trained subjects in a specific physical activity, any adaptation that causes muscle trauma generates hypertrophy. The main problems are the timing in which it occurs, the difficulty of keeping a high intensity over the years and the energy expenditure. Let's see these three factors in detail:

1. The time in which hypertrophy is generated is much slower, since, compared to the weights, training in cardiovascular activities will not be muscle-centric, making it difficult to deplete the energy of a single muscle group at the expense of a certainly more generic tiredness.
2. A continuous increase in load intensity over time will be much more complicated.
   If increasing the load intensity in the gym is child's play, in aerobic training, in addition to being more uncomfortable, it is also more difficult to quantify.
   Let's take cycling as an example: we can increase the load intensity by changing to a harder resistance or climbing steeper climbs, but it will certainly be less practical than increasing the kg on a barbell.
3. Aerobic workouts use significantly more energy than a weight training session. This translates, in most cases, into a negative energy balance that will greatly limit muscle growth.

An advice I can give is to use aerobic activities purely for cardiovascular purposes by increasing the intensity from time to time to unlock a certain kinetic chain involved
(for example by increasing the intensity of the bike to “wake up” the dormant quadriceps).

NOTION N°16

Cardio, before or after lifting weights?

Usually it is recommended to practice cardiovascular exercises at the end of the training session in the gym.

Mostly for two reasons:

1) If you do cardio at the beginning of your training session then your performance with the weights will suffer.

2) If you do cardio at the end of your training session your body will take the energy required mainly from fat since you have already depleted the sugar available during the training with weights.

In general, it’s correct to say that it is wise to put the cardio session at the end of your training, but even this statement needs to be put into context. In fact, we shouldn’t ignore the psychological element which plays a key role to achieve our goal.

I’ve been working in the fitness industry for years now and I realized that if one has to do cardio at the end of the session he or she will usually skip it and head straight forward to the locker room.

The athlete will already be satisfied and tired by the weight training and he or she will perceive the cardio exercise as an ulterior burden obviously more tiring and harder, which won’t give any psychophysical satisfaction, causing an instinctive repulsion for it.

What do we do then? The most intelligent answer is to put the cardio training at the beginning of the session. When we are more motivated and have more energy. Once one finishes with the cardio, he or she will always want to train with the weights and even if the performance won’t be perfect the athlete will be able to complete the training session.

The perfect solution is not always the most suitable.

Chapter 2

Exercises

NOTION N°17

You don't need a thousand exercises to build a massive back.

Now it has become a common belief that to build an excellent back you have to hit it in 1000 different points with a ton of exercises, using moderate loads and giving priority to the muscle-mind connection.

Nothing could be further from the truth.

Although the back is an area with many muscle groups, it does not require all these variations. The three movements described below allow us, if performed correctly and with important loads, to involve all the affected muscles without getting bogged down in details.

- Horizontal Pull-Ups: by performing this movement, in addition to the latissimus dorsi, we will mainly hit the central part of the back where the trapezius resides, giving it thickness and compactness.
  the most important exercises are: Bent Over Barbell Row, Bent Over Dumbbell Row, Bent Over T-bar Row, Vertical Row, Seal Row and Pulley.
- Vertical Pull-ups: this movement will allow you to build a huge back by deeply stimulating your Latissimus Dorsi.
  This is undoubtedly the most suitable of the three movements for building the much sought after V-Shape.
  The most important exercises are: Pull-ups, reverse pull-ups, Lat machine wide grip and Lat machine reverse grip.
- Hyperextension: in this exercise the Latissimus Dorsi will be overshadowed by the Trapezius, the lower back and the Spinal Extensors. Muscles which help in keeping the torso stable.
  The most important exercises are: Snatch, Hyperextension, Good-mornings.

NOTION N°18

The “Bent Over Barbell Row” is not one of the best exercises for developing the Latissimus Dorsi.

The Bent over barbell row is one of the most praised exercises for the latissimus Dorsi. It is considered a fundamental movement, like the bench press for the chest or the squat for the quadriceps, for its common characteristics: the free barbell and the heavy load.

Unfortunately, the inclined position without a torso support creates mechanical disadvantages to recruit the Latissimus Dorsi, since:

1. The Latissimus Dorsi works with its maximum ROM (Range Of Motion) through vertical or horizontal (at 90°) pull exercises. In this case the range of motion of the humerus will be almost halved compared to exercises like the Lat machine, and it will greatly limit its involvement in the movement.
2. An inclined torso position will inevitably involve the upper part of the trapezius, 'stealing' work from the Latissimus Dorsi: the greater the inclination of the torso the lower the involvement of the target muscle.
3. Since this exercise doesn’t have a support surface it will largely involve the stabilizer muscles including the lumbar which, clearly

weaker than the Latissimus Dorsi, will reach muscle failure first.

4. Due to the heavy load that pulls your shoulders down, it will be very difficult to keep the shoulder blades adducted with the attempt to reduce the intervention of the deltoid.

If the goal is to train the Latissimus Dorsi it is better to stimulate it through vertical or horizontal pull exercises, but with a torso resting on a supporting surface in order to reduce the intervention of the stabilizers, or with the torso at 90 ° toward the legs to increase in ROM work.

Among the most popular exercises instead of rowing with the barbell, we mention: the Vertical Row, the cable Pulley, the single arm dumbbell Row, the inclined bench row with dumbbells and the Seal Row.

NOTION N°19

If you have highly developed deltoids and you struggle to isolate the Latissimus Dorsi on a Lat Machine, try it with a reverse grip!

The common pulldown on a Lat Machine is a great exercise for your back. It perfectly imitates the movement of the bodyweight pull-ups without setting your bodyweight as a standard load allowing you to better control the movement and decreasing the injury rate.

Against it, we can say that, for those with highly developed deltoids or with rounded shoulders, it becomes difficult to isolate the Latissimus Dorsi. Here comes into play the Lat machine with a reverse grip, which, compared to the classic execution, greatly reduces the activation of the posterior deltoid and rhomboid at the expense of the biceps and the Latissimus Dorsi, usually weaker in clavicular subjects (subjects with wider clavicles).

In this exercise, as in the flat bench presses, we must remember to adduce and depress the shoulder blades, in order to avoid the shoulder anteposition, favoring the recruitment of the latissimus dorsi.

ATTENTION! Unlike the classic version, this variant, in the long run, can create soreness in the shoulders and elbows, due to their "forced" position during the final phase of the movement. In order to stem the problem, I recommend using an incomplete ROM, limiting the total stretching of the upper limbs above the head.

NOTION N°20

Single arm Lat machine pulldown is the best exercise to “re-educate” your Latissimus Dorsi.

This variation is the most physiological thanks to the freedom of movement of the joints involved, such as wrist, elbow and shoulder. However, this exercise doesn’t have to be done with heavy weights.
The single arm lat pulldown well suits to all those people who struggle to feel the back lat working.
In fact, these people usually think they’re using the “Latissimus Dorsi” but they’re actually using the “Teres Major”, which is in the upper back.
This exercise will help you a lot to increase the ROM of this muscle group as well as enabling it to reach its full contraction thanks to the small flexion of the torso on the side of the arm we’re using.
This technique will help you to fully squeeze the muscle and to avoid using the upper “Trapezium” muscle by enhancing the “Scapular depression”.
ATTENTION! Since this is a complementary exercise, I suggest you to avoid doing it with a heavy weight or by following some strange intensity technique so that you won’t be risking to face any injuries for no reason.

NOTION N°21

When performing the dumbbell bent over row, imagine to row toward your bottom.

This exercise is usually done incorrectly by the people in the gym. If the goal is to stimulate the Latissimus Dorsi, a common mistake is to create a vertical trajectory from the floor. In addition to reducing the working ROM, this way of performing the exercise greatly limits the scapular depression and forces the elbow to flex more, involving the biceps and forearms during the movement.

Instead of a straight line, imagine having to create a sort of semicircle with the handlebar, a bit like when you played tug of war when you were little: you pulled it towards the bellybutton, not the chest!

In addition to increasing the working range of the Latissimus Dorsi, this expedient partially limits the intervention of the biceps and the trapezius in the rowing phase.

ATTENTION! A common mistake in this exercise is to focus only on scapular depression, forgetting about adduction, which is essential for safeguarding the shoulder!

NOTION N°22

When performing the Back Squat, before bending your knees, make sure you have moved backward your pelvis.

Imagine sitting with a backpack on your shoulders, how would you behave? Would you take your bottom towards the chair or would you come down vertically by bending on your knees? Presumably I would say the first option, since it is more physiological, natural and requires less effort.

This trick, if used in the back squat with the barbell, will allow you to position your center of gravity correctly, distributing the load evenly over the whole foot, giving you stability and safety.

Bending your legs immediately, on the contrary, will force your forefoot to bear more load in order to avoid losing balance, producing a disadvantageous and potentially harmful execution for the knee joint.

An excellent method to learn this trick is the wall squat: it consists of positioning yourself about a step and a half away from the wall to perform free-body squats, trying to touch the wall with the glutes. Although trivial, it will teach you to focus attention on the extension of the hip while squatting!

ATTENTION! Do not bend your torso too far forward while moving the pelvis away from you. Always try to maintain a certain verticality of the chest during the movement.

NOTION N°23

In the squat, by changing the position of the barbell on our back, the focus on the muscles involved varies.

By positioning the barbell on the upper part of the trapezius, (technique called High bar) we will obtain a very vertical and deep squatting. The ankle and knee joints, in fact, will be more involved than those of the hip and spine, which must be kept as much as possible in line with the trajectory of the barbell to avoid a forward imbalance.

All this translates into a much more intense work on the quadriceps (main extensor of the knee) at the expense of the lumbar, glutes and hamstrings (main extenders of the spine and hip). In the Low bar variant, however, by placing the barbell in the lower part of the trapezius, you will be forced to lean your torso forward to prevent the barbell from sliding downwards. All this will result in moving forward the center of mass, which must be compensated after by a greater flexion of the hip, thus increasing the work on the lumbar, hamstrings and glutes at the expense of the quadriceps.

To get a better idea, imagine having to squat down on yourself with a very heavy backpack. If you wear it on your back you will have to lean forward

to avoid to tip over, vice versa, if you wear it backwards (on your stomach) you can go down following a more vertical trajectory.

NOTION N°24

One of the best exercises for training the thighs is the walking lunge with a barbell.

This exercise manages to combine most of the benefits of the back squat with the versatility of lunges, a factor that should not be underestimated. I

found mainly 3 disadvantages that are "Fixed" from the version with the barbell:

1. How many times have you stopped the series of lunges because you had exhausted forearms or trapezius? The variant with the barbell avoids this problem, by putting the barbell on the upper back. In this way the tension on the accessory muscles is greatly released. This translates into greater load and greater muscle recruitment in favor of the lower limbs.
2. How many times during the alternating lunges on the spot did you feel losing tension both on the glutes and on the quadriceps, because of the dead time between one repetition and the other? In this case, the walking lunge eludes this problem. During the whole duration of the series you will be on the move and the loss of tension will be less, consequently helping you to better focus on the target muscles.
3. In addition to keeping an excellent ankle-knee-hip synchrony, this variant deeply stimulates the core and the stabilizing muscles.

ATTENTION! The dynamic variant is certainly the one that requires more coordination, physical effort and familiarity with the weights, compared to the static variants.
I suggest you to avoid starting immediately with the walking lunges without having spent a few weeks refining the technique and cardiovascular conditioning through the other two variants: static lunges backwards (easier) and static lunges forward.

NOTION N°25

One of the most common mistakes during calves training is to flex only the tip of the foot.

It is known that it is very hard to develop big calves, but the way we train them does the trick.
One common mistake in training calves that one usually makes is to place only the toes on the calf machine or the step. In this way the calf won't be able to fully contract, transferring the tension of the load from the ankle flexors to the toes flexors. Instead, if we place half of the foot rather than just the toes, we'll be able to achieve a better recruitment of these muscles. Try and see!

I'm pretty sure that if people would train the calves with the same volume and energy as they train biceps, most probably we won't see all those "chicken legs" around.

ATTENTION! If you have always trained your calves in the wrong way, I suggest you to restart from scratch. Begin by training them with bodyweight exercises, focusing on the contraction throughout the movement. You'll be able to add some weight by time and after having reached a good confidence with the technique you'll be able to increase the ROM (Range of movement) by adding a step.

NOTION N°26

While doing the bench press always remember to depress and adduce your shoulder blades before bringing the bar down to your chest.

It is very easy to learn these two movements, but this doesn’t mean it is trivial.

In order to better understand the adduction imagine having to hold a paper with your upper back, how would you do it?
The most obvious solution is to spread your chest and pull the shoulders back, trying to "hold the sheet" with the shoulder blades.

As for scapular depression, it is a little easier. Do you know the classic gesture of indifference made by shrugging your shoulders? Now, what you have to do is exactly the opposite, that is pushing them down!

These two tricks will allow you to create a much firmer support on the bench, generating more strength and reducing injuries to the shoulder joint.

The most frequent cause of shoulder pain for those who train in the gym is caused by poor performance of this exercise. Ignoring these two fundamental steps will generate, over time, a strong anteposition of the shoulders, creating an ideal environment for the development of the sub-acromial conflict syndrome.

ATTENTION! In addition to these two movements, good chest mobility is required in the bench press to keep the 'chest up'. Taking a few minutes to warm up is a wise choice. Don't rush!

NOTION N°27

When pushing with the dumbbells it is advisable to put the wrist in an intermediate position.

Unlike the execution with the barbell, where the wrists are 'forced' to maintain a prone position (as when we use a motorbike, so to speak). The situation changes in the variant with the dumbbells. Since the wrists are not tied to each other, we have more freedom of movement and we can therefore search for the ideal position for us, improving both the execution and the recruitment of the Pectoralis major.

Moreover, it will result in a much more physiological execution, both for the wrists and for the humerus, significantly reducing the stress on the shoulder joint, particularly in the area near the chest.

I advise you to try to slightly rotate the wrists, putting them in an intermediate position (at about 45°) and then modify it by a few degrees depending on your needs.

NOTION N°28

The Pullover exercise is great for the upper body.

Thanks to its versatility, we can perform it in different ways and times in order to intensify the work on the Pectoralis major or the Latissimus Dorsi, according to our goals. We have to stop thinking about compartments like:

“that’s for the back!”-“No, it’s for the chest!”

In general, it involves both muscles in an equivalent way, but through some tricks we can privilege one over the other. Let's see some examples together:

- The variation with dumbbell/disc/barbell usually involves more the Pectoralis major, especially if the bench is flat or declined.
- Instead, the variation with the cables emphasizes the work on the Latissimus Dorsi, especially if the bench is slightly inclined.
- The variation on the machine is one of the best exercises for the latissimus dorsi: it allows you to totally isolate it, since, by pressing through the humerus and not with the hand, we will reduce the intervention of the grip, the biceps and the shoulders, addressing the load almost exclusively to the target muscle.

Furthermore, depending on when it is used, it can have different functions:

- During the warm-up it can be an excellent solution both for pre-activating the back and chest, and for warming up the shoulder joint (gradually increasing the ROM).
- It can be used as a “finisher” at the end of the training session for the muscle we trained before (Latissimus Dorsi or Pectoralis Major) since, being tired, it will reach exhaustion first, preventing his co-participant from working at full capacity.

ATTENTION! The pullover exercise requires good shoulder mobility, especially in extra rotation. Before adding it in our training plan, it is wise to check our skills in order to avoid injuries.

NOTION N°29

The push down with supine grip is an excellent exercise if performed one arm at a time.

Push down is definitely one of the best exercises for the triceps. It allows you to isolate them properly without creating too much stress on the elbow joint, as often happens in the French press with barbell or dumbbells.

However, those with highly developed pectorals or anterior deltoids will still find it difficult to avoid these muscle groups to take part in the movement. In this case, an excellent solution is to use a supine grip, training the triceps one at a time.

This alternative will allow you to work with a wider ROM (Range of Motion) on the triceps and at the same time, thanks to a greater verticality of the torso and the favorable position of the shoulder, the pectoralis major and the anterior deltoids will be partially excluded from the movement.

ATTENTION! Supine grip push down, if performed one arm at a time with a handle or rope, is a fantastic exercise, but if performed with a straight bar and with the arms in sync it’s going to be a biomechanical disaster. In addition to having the same flaws as the classic push down such as reduced ROM and a high recruitment of the pectorals and anterior deltoids, it puts the elbows and wrists in a very forced position, generating, in the long run, chronic inflammations and injuries.

NOTION N°30

Your strength depends on your weak spot, so don't forget to train your grip too!

It plays a fundamental role in bodybuilding, since a weak grip interferes with the growth of other muscle areas. The grip is often the first to reach exhaustion when training the back, the biceps or when lifting with a barbell from the ground, greatly limiting their muscle potential.
You can temporarily stop the problem with the bands, but in the long run it will not prove to be the smartest solution. The loads will continue to increase and the grip will continue to weaken, further widening the gap between the muscles.

The most correct thing we can do to strengthen the grip is to directly strengthen it, both with isometry exercises (by hanging on the bar with one hand or two) and with more specific exercises such as the wrist curl, reverse wrist curl, Hammer curl and the Reverse curl. Another method to improve the grip is to thicken the handle with a towel or special gadgets that can be purchased on the web (e.g. Fat Gripz).

ATTENTION! We shouldn't go overboard with grip training; a few sets twice a week are enough to obtain satisfactory results. Too frequent or intense training can lead to chronic inflammation of the forearm tendons, forcing you to stay away from the gym for several days.

NOTION N°31

If you struggle to recruit biceps, lay your shoulder on a support!

Contrary to popular belief, biceps are by no means a simple muscle group, on the contrary, they are rather difficult to train!

The least favored subjects for the development of this muscular group are certainly those who have very " intrusive " front deltoids: in exercises such as Curl with barbell or standing Curl with dumbbells, the shoulder muscles intervene widely both as stabilizers and as agonists, "stealing" work from our beloved biceps.

Two excellent solutions to limit the intrusion of the deltoids are:

- Resting the elbow on a support, like when we perform the Curl on the Scott bench or the concentrated Curl, to partially release the tension from the anterior deltoid.
- Putting the biceps in a critical situation, in which the muscle is forced to immediately intensify his intervention, improving his recruitment. This category includes all the exercises that require performing a Curl with the shoulder in extension, such as the Curl on the 60 ° bench or the Curl on the 45 ° bench.

NOTION N°32

Shoulder training for a trapezius-dominant subject must be very specific.

These subjects tend to recruit the upper trapezius rather than the deltoids, due to their body conformation and especially because of the short clavicle. They develop at the end unpleasant “bell-shaped” shoulders.

Unlike the deltoid-dominant ones, they will have to focus the training of the deltoids almost exclusively on mono-articular exercises. They will have to temporarily replace the overhead presses and all kinds of upright rows, with front and side raises and shoulder flys.

This may not be enough, it is not uncommon to find trapezius-dominant subjects who still feel the trapezius muscle while doing lateral raises. So what should we do?

- We could limit the involvement of the trapezius by performing partial lateral raises, stopping the movement at around 60° or 70° instead of performing a full ROM movement (which is at 90°).
- We could start from a position which stresses the deltoids and forces them to be under pressure from the very start of the execution. For example by performing lateral raises with elastic bands or at the cable in order to increase the muscular tension, or, by doing them on an inclined bench (e.g. 45° bench).

ATTENTION! In order to avoid losing familiarity with exercises like the overhead press or the upright rows we can add these exercises at the end of our deltoids training session or after the isolation exercises.

NOTION N°33

Before training your abs 7 days a week make sure you're keeping a correct posture during the execution.

You always train the abs but you've never seen any six-pack? Excluding the genetic factor, probably:

- You have too much abdominal fat.
- You train abs with the wrong technique (which is what I'm going to focus on in this "notion").

There are mainly two factors that cause a wrong technique:

1. Incorrect posture

   The most disadvantaged subjects for an abs training are certainly the hyperlordotic ones (with excessive spine curvature in the lower back). I suggest them to strengthen the retroversion of the pelvis through the Plank with retroversion and hip trust before doing countless crunches without getting anywhere. After bringing the pelvis back to the correct axis it will certainly be easier to train the abdomen without involving too much the lumbar area.

Performing Crunches with the legs resting on a bench, positioning the knees at 90 °, is an excellent solution to temporarily control the problem. In this position, we will greatly limit the intervention of the co-participants muscles (iliopsoas and quadriceps) and we will be able to keep the lumbar area in a neutral position.

2. Wrong movement:

The abdomen does not need a large working ROM: when you perform the classic crunches you must focus on the initial part of the movement, that is, on lifting the shoulders off the ground while keeping a constant breathing; lifting a lot the upper body in this exercise is not convenient since other very powerful muscles will sub-enter such as the iliopsoas and the quadriceps which will limit the intervention of the abdomen.

In order to develop a great six-pack you'll need to follow these key points:

- Start with a lower ROM.
- Always check your posture.
- Control your breathing.
- Be on a diet of lettuce leaves from now on!

Chapter 3

CURIOSITY

NOTION N°34

Why is it difficult to be objective with yourself in bodybuilding?

During the day, to how many of you happen to see yourself in 100 different ways? In the morning you get up and feel fit, dry and toned, but after a few hours, the flat stomach effect wears off. In the late afternoon you go to the gym and during the training you look like the twin brother of Ronnie Coleman, but after the training, you see yourself thinner than before. Don't worry, it happens to everyone. The factors that influence our aesthetics in the very short term are many. The important thing is avoid getting our mood influenced by a " falsified " data.
I have chosen 4 factors among all of them, let's analyze them together.

1. **Hydration**: it plays a fundamental role in short-term body composition: if we are slightly dehydrated we will immediately notice the veins, giving us that much-desired "Competition" effect. If we are well hydrated the water and the nutrients will be directed into the muscles by dilating them, if instead we have stuffed ourselves with food, we will probably retain more water (especially in the abdominal area) appearing swollen and lacking of details.
2. **The training**: during the training our body transfers a lot of water into the muscles, creating the well-known “pump” effect. This effect persists for 2-3 hours after the training session, but once the water is back “in its place", the muscles will be flatter and emptier than before, since our body consumed the glycogen inside the muscles.
3. **Nutrition:** Our diet also affects short-term body composition.
   A low carbohydrate and / or low-calories diet will make us appear drier but "empty", on the other hand a carbohydrate-rich and / or high-calories diet will give us the opposite effect making us appear fuller and “harder” but "dirty".
4. **Our judgements**: During the day we are constantly bombarded by external factors, in particular by social networks, which, by proposing a distorted physical ideal, fool us that we can reach the same standards

of some fitness influencer without using drugs, making us feel uncomfortable with our body. Isn’t the purpose of the fitness industry to deceive and create discontent, so that people will continue to invest in aesthetics to bridge this gap?

Bodybuilders also look at themselves in the mirror in a maniacal way: without realizing it they are able to look themselves in a mirror 50-100 times a day.
At first it may be nice to watch your improvements, but I can assure you that judging yourself so many times during the day is not a healthy thing.

If you stare at a flower for hours, despite its beauty, sooner or later you will find a flaw.

NOTION N°35

Training to have a good body and practicing bodybuilding are two different things.

What is your goal? Why do you train? Who do you train for? Do you do it for your health, for the aesthetic or to go on stage and compare yourself with other athletes?

Once you find the answers to these questions, you will be able to achieve your goals and be at peace with yourself. It is not written anywhere that if you join the gym you must become a professional bodybuilder.

No one is forcing you to alternate periods of mass with periods of definition or to use intensity techniques with incredibly heavy loads or to stuff yourself with a huge amount of proteins and food supplements. Life is not all in black and white, it is in fact full of shades, so do not get stuck in certain situations if you feel that they do not belong to you. Bodybuilding is a real discipline, in which you prepare yourself during the year by following a more or less rigid diet and targeted training programs with the aim of achieving the best physical shape for the competition day. If this is what you are looking for, bodybuilding fits you perfectly!

Training to achieve an excellent physical shape is another thing! It is based on your ability to self-regulate over time, trying to do a little more every day in comparison with the previous day, avoiding extremism both in the gym and with the food.
If the goal of bodybuilding is to win a competition, here the goal is to find a balance between health, aesthetics and social life.

ATTENTION! That said, I do not want to communicate that the "bodybuilding style" approaches are ineffective but some subjects are not predisposed neither physically nor have the right personality for such methods.

Unicuique suum! (to each his own)

NOTION N°36

How much can we develop our muscles without using drugs?

Our muscle growth is influenced by several factors such as: practical experience, joint wear, genetics, age and nutrition.

In all this sea of 'liquid' information, we are sure of two factors:

1. Muscle growth is not linear, but subject to changes.
2. The closer we get to our genetic potential, the slower our muscle gains.

Having said that, the renowned Lyle Mcdonald (American writer and kinesiologist), has provided us with guidelines that we can use to predict our muscle growth in relation to the years of training, provided that they are carried out very well.

- 1st year 9-11 Kg (0.9 Kg a month)
- 2nd year 4.5-5.5 Kg (0.45 Kg a month)
- 3rd year 2.2-2.7 Kg (0.2 Kg a month)
- 4+ years 0.9-1.3 Kg

Alan Aragon (American researcher and author), instead, proposes a similar model but based on the monthly muscle gains of the various subjects, related to their body weight:

- Beginners 1-1.5% of the total body weight a month
- Intermediate 0.5-1% of the total body weight a month
- Experienced 0.25-0.5% of the total body weight a month

Obviously these are just estimates, but very truthful. It is evident that our muscle growth cannot be endless: the more years pass the more you approach a plateau, where even maintaining that physical form is really difficult.

Focusing on muscle quality rather than its size is a smart choice (if not mandatory) especially at a certain point in one's fitness career.

NOTION N°37

What are the ideal proportions?

Needless to say that for an balanced development of one's body the posture and the proportions between the various districts play a fundamental role. Being a bodybuilder is like being sculptor of ourselves, no detail should be left to chance. Focusing the training solely and exclusively on muscle size is a naive choice to say the least.
We may have huge quadriceps but if the hamstrings don't grow, the leg will look incomplete.
We can develop fabulous Lats, but if the back doesn’t have a good trapezium and sculpted lumbar bands, the back will be flat and empty.
We can also have Olympic biceps, but if the forearm is very lacking, on the whole the upper limb will not have a strong and performing appearance but

it will only appear swollen.
We may have a very narrow waistline, but if we do not compensate through an excellent shoulder width, it will not be emphasized in the least.
The human mind reasons by comparison, not in absolutistic terms. Is it big compared to what? Is it narrow compared to what? What we need in most cases is QUALITY not QUANTITY.

Having said that, I found a very interesting formula from Professor John Mc. Callum (sports author), on the right proportions between the various muscle groups. Don't take it as a dogma, but use it as a guideline:

- Chest=wrist x 6.5
- Arm=chest x 0.36
- Forearm=chest x 0.29
- Leg=chest x 0.53
- Calf=chest x 0.34
- Waist=chest x 0.7
- Neck=chest x 0.37
- Hips=chest x 0.85

NOTION N°38

Our “set point” has a huge influence on our body composition.

The set point is nothing but the metabolic state to which our body tends and is partly decided in the prepubertal age (10-14 year-old) and partly during pregnancy.

In that age, the increase in fat mass causes not only an enlargement of the fat cells (hypertrophy), but also an increase in their number (hyperplasia), creating a more favorable environment for the accumulation of fat.

This does not mean that if you have been overweight as a child you can never have a good “six-pack” abs, you simply have to struggle more than a person who has always been thin!

A very effective strategy to lower your set point by a few points is to insert, after the weight loss phase, a maintenance phase that lasts at least twice as long as the previous one.

For example, if we start from a body weight of 80kg (our set point) and go down to 75kg in 10 weeks, to "confirm" this goal we should maintain the weight for another 15-20 weeks through a low-calories or slightly low-calories diet.

In this way the body will have got used to the new weight, finding a new homeostasis. It is a phase that almost everyone avoids because it brings few aesthetic results in the short term, but it is one of the most important strategies in the long term to improve our body composition.

NOTION N°39

Do training and nutrition both count at 50%?

We hear all sort of things on the relationship between nutrition and training: there are those who say 30% training, those who say 40% nutrition, and there are those who say that only one of them really counts...
In short, everyone has their own theory, but does it really make sense to make comparisons of this kind? Absolutely not.

Imagine having to train hard in the gym for a month, but only eating junk food. Wouldn't you feel slow, foggy and underperforming?

Or you think you have to follow a very strict diet for a month but without any type of training. How much muscle mass would you lose?

In both cases the result would be disappointing. As in everything, the reason lies in the middle, but this does not mean giving equal importance, it means that both must coexist to obtain a satisfactory result.

Let's take the car as an example: what allows you to travel? The fuel or the car? Both? But in what percentage? 40% petrol and 60% car?

However, it is a question that does not make sense, because even in this case, the two factors must coexist. In a very rough way, our body also works like this: nutrition and training are closely related and the variation of one factor also indirectly affects the other. The more we can be consistent with both, the more we will be in line with our goals.

NOTION N°40

“Posing” makes the difference.

There is nothing more beautiful than performing the poses after a series or at the end of the workout: the muscles are full, the vasodilation is at its maximum and the vascularization is very high. In short, we look like our XL version!

In addition to being a moment of pure personal glory, does posing really help? Absolutely, and that's what differentiates bodybuilding from other disciplines.

Posing greatly increases muscle recruiting ability, which will be very useful when we return to training. We will be able to select and deselect one muscle district rather than another, considerably increasing the internal load.

Performing the poses also helps us to identify our strengths and weaknesses. Muscles that we would never have seen from de-contracts, sprout like flowers as we pose (especially those of the back and legs), giving us a decidedly more objective view of our body.

Posing is an art, and as such it requires training. Trying, trying again and try to be like the professionals, all of this will make you develop a much more harmonious physique.

NOTION N°41

Electrostimulation is not useless.

First praised, then mocked. Let's try to shed some light on this particular practice, from a bodybuilding perspective.

Electrostimulation is a technique that is based on the stimulation of nerve cells through electrical impulses generated by an electro stimulator. These impulses, propagated through electrodes applied directly to the muscle, allow us to contract it involuntarily, without involving joints or synergic muscle groups.

The electric waves that start from the device can be modulated with various cards with different parameters, depending on the area involved or the type of stimulation we are looking for.

We can consider electrostimulation the passive version of the posing, where we will not seek the contraction of a certain muscle, but it will be the contraction itself to "show us the way". If you use these two practices in a complementary way, you will be able to greatly increase your recruiting capacity.

It is a very useful tool to wake up latent muscle groups or to fix various imbalances that are difficult to correct with the classic training.

Personally I have had important results on calves and abdominals, not directly by electrostimulation, but by the muscle recruiting ability that it had created.
After a few weeks of use, during weight training, I started to feel them in a deeper way, just like a dominant muscle! This allowed me to greatly improve its size and quality.

ATTENTION! If you think you can grow bigger muscles by sitting on the couch and using the electrostimulation, well you’re completely off the

track.
The electrostimulation has to be the “icing on the cake”, something that can be complementary to your training schedule, just like the “posing”.

NOTION N°42

Each exercise needs its footwear.

Which kind of shoes do we need in the gym? Well, it depends on what we have to do.

If we love cardiovascular machines, we do long aerobic training sessions and we use isotonic machines sporadically, the classic running shoes are fine: being well cushioned, they are perfect for running because they reduce the pressure on the knees and the spine. If we are lovers of weightlifting or Powerlifting, the most appropriate would be the shoes with the heel raise. In addition to creating a stable base on which to transmit strength, the raise

simulates greater mobility of the ankle, essential in exercises such as the Squat or the Snatch.

If we are bodybuilder or crossfitter, we will need shoes that give stability but at the same time are very versatile, basically a mix of the two previously described. There are models called "hybrids" which, through a semi-flat, compact but not extremely hard sole, allow us to comfortably perform most of the fitness exercises.

NOTION N°43

Multivitamin for everybody?

It has now become common to prescribe a multivitamin to everyone: fat, thin, muscular, young, elderly ... in short, everyone needs a multivitamin. But in a world with such a high rate of obesity, is there all this vitamin deficiency? Absolutely not.

They are now added into all kind of products. Among the most popular are: breakfast cereals, cocoa powder, milk, fruit juices and snacks. If we are not careful about the quantity, there is the possibility of incurring the opposite risk, i.e. hypervitaminosis!

Being a food supplement, multivitamin should be prescribed if there is a real need or in particular situations. People who could benefit from a targeted food supplementation are those heavily underweight, with food intolerances, who live / work in closed places and rarely manage to sunbathe or heavy smokers.

If we are healthy subjects with a normal weight and with a correct diet and we consume at least 3-4 portions of fruit and vegetables a day, it is very rare to find a lack of vitamins.

NOTION N°44

Sleep has a very strong influence on training performance.

Perhaps one of the factors that most influences our performance, both in training and in our daily actions, is precisely the quality of sleep. In fact, most cell repair and hormonal release processes occur at night, including growth hormone.

Stress, anxiety, excessive meals, abuse of caffeine or other drugs, use of the telephone or television before sleep drastically worsens the quality and quantity of sleep, consequently altering the normal functioning of regenerative processes. Some infusions or supplements, such as melatonin, work at its normal functioning but come in all, the cause of the problem must be found.

How we take care of our nutrition and our training, we must learn to take care of the quality of our sleep over time. We cannot always live with the battery at 50%, without the right recharge sooner or later something will break ..

NOTION N°45

Do sweeteners make you fat?

There are now millions of people who choose Sugar-Free drinks with the intention of staying fit without giving up the sweet and thirst-quenching flavor of the classic product.

Huge advertising campaigns have been carried out to sponsor these products, with the aim of reaching a slice of the market that they would have dreamed of before: sport lovers.

And they succeeded, thus creating a business of billions of dollars.

Have you ever noticed that in the commercials the phrase " Drink without getting fat " is never pronounced? It is only emphasized that it has 0 calories, assuming that 99% of buyers would have interpreted it in " I can drink hectoliters without gaining weight ". It would be too good to be true.

In fact, most sweeteners, although not assimilable by our body, stimulate the pancreas to produce insulin*, just like sugar.

Basically we are creating a fattening condition, without having ingested calories!

Unfortunately, the only purpose of these products is to create the illusion that consumers are healthy to induce them to drink more of them, without having to worry about the consequences. As if this were not enough, almost all these drinks are enriched with caffeine, a substance with a high addictive potential, to unconsciously encourage consumption.

If your goal is to be fitter and healthier, I suggest you to avoid this kind of product.
Do not be fooled by the writing “0 calories”, because the only 0 is in the logic of drinking it.

* Insulin has the function of making the cell membrane permeable in order to allow nutrients to enter.

NOTION N°46

What should we eat before training?

It is a very vague question and honestly it depends on how much time has passed since the last meal.

If you train at 3pm but have had lunch at 1pm it doesn't make much sense to insert an additional meal, if instead 3-4 hours passed from the last meal then things change.

Food supplement excluded, we should consume a fast-absorbing meal that gives us the right amount of energy to complete the workout. An excellent solution is represented by: fruit (rich in potassium), puffed rice cakes, honey or rusks with by a portion of nuts or dark chocolate, both rich in magnesium.

We must avoid taking too large portions, otherwise most of the energy will be directed to the digestion process, creating drowsiness and exhaustion.

ATTENTION! Taking a lot of protein before training is not a smart choice, mainly for two reasons:

- They are not the fuel you will use during training.
- They require long digestion times, which can interfere with the quality of the session.

NOTION N°47

Protein powder is a very useful supplement, but not all kind of them are the same.

What should encourage us to buy one protein powder supplement rather than another? What are the factors that distinguish them? Let's try to explain.

The price and quality of a protein supplement depend, in addition to the quality of the raw material and the manufacturing processes, on five other factors:

1. **Ingredients**: in the ingredients we should find the protein source, any emulsifiers, flavors and sweeteners.
2. **Amino acid profile**: In lower quality supplements the amino acid profile is altered to reach certain nutritional values. In some products,

for example, a lot of glycine is added to alter the protein content, but this will take away " space " from more important amino acids such as leucine, isoleucine and valine.

3. **Nutritional values**: A good protein supplement should have a reduced fat content (<3g \ 100), reduced carbohydrate content (<5g \ 100g) and a high protein content (> 75g \ 100g).
4. **Biological value**: The ease with which we absorb one protein rather than another varies from the protein source ingested. Proteins from animal sources have a decidedly higher biological value than vegetable ones, thanks to their more complete amino acid profile.
5. **Marketing**: As we know, all that glitters is not gold. Companies spend millions of dollars on sponsors, designs and advertising campaigns to convince the buyer that their product is the best out there, justifying its high price.

NOTION N°48

Milk proteins are the most common protein supplement on the market.

Thanks to their excellent quality / price ratio and their versatility, they have spread like wildfire all over the world, conquering most of the pantries of both amateur and competitive sportsmen.
Unlike other types of proteins, they have a much wider range of choices according to their objectives. Among the best known are:

- **Whey concentrate:** They have a protein concentration of around 80%, small quantities of lactose and fats, and a greater presence of minerals such as calcium and sodium. (ideal as a meal replacement).
- **Whey isolate:** definitely the most common form on the market, it has a high degree of purity, reaching protein percentages of up to 90-95%, with insignificant amounts of lactose and fats and a lower presence of minerals. (Ideal after training).
- **Hydrolyzed whey**: this protein is subjected to artificial digestion processes that split the proteins into smaller fractions (peptides), in order to make them easier to absorb. (Ideal after training).
- **Whey native:** they are obtained through a particular filtration process of raw milk, and have a higher concentration of leucine, but are less digestible than isolated Whey. (ideal as a meal replacement).
- **Micellar casein:** this is the most classic form of casein, famous for its ability to release proteins slowly and gradually. (ideal before bedtime).
- **Calcium caseinate:** they are the cheapest, thanks to a particular manufacturing process, absorption times are reduced, making them similar to Whey Concentrates. (ideal as a meal replacement).
- **Hydrolyzed casein:** certainly the most expensive of the caseins, it behaves similarly to the hydrolyzed Whey, allowing a higher digestibility and a faster assimilation time. (Ideal after training).

NOTION N°49

In addition to milk proteins, other equally valid sources are available on the market.

Due to food intolerances or ethical choices, the market had to adapt trying to satisfy a much larger number of users. With this notion we will make a quick comparison between the classic Whey and the most popular alternatives.

Premise:

- The absorption rate is not purely a qualitative indicator, but only indicates the digestion times of the various proteins. After training or at breakfast, the body needs more rapidly absorbed proteins. During the day it is advisable to take proteins with medium absorption speed, while before bedtime, slow release proteins are the most sensible choice.
- The biological value identifies how easily we assimilate a certain protein and is directly influenced by the completeness of the amino acid profile.

Whey protein: fast assimilation / Bio. Value 104.

Egg protein: average speed assimilation / Bio. Value 100.

Beef protein: average speed assimilation / Bio. Value 80.

Casein protein: slow assimilation / Bio Value 77.

Soy protein: average speed assimilation / Bio. Value 74.

Wheat protein: average assimilation / Bio. Value 55.

NOTION N°50

The benefits of cryotherapy.

Only few gyms can truly say to offer this wonderful service to their clients.

This therapy consists of introducing a person into a metallic cylinder where he or she will be surrounded by a gas cloud at -180 ° for about 3', with the exception of the head which will remain outside the machine. Even if endured for a few minutes, such a temperature creates strong changes within our body, including:

- Calorie consumption of 500-900kcal
- Reduces oxidative stress
- Reduces water retention
- Promotes the conversion of adipose tissue from white to brown, increasing the daily calorie expenditure.
- Improves blood circulation
- Speeds up muscle recovery
- Speeds up healing from inflammation
- Speeds healing from trauma or injury
- It appears that in some cases it causes apoptosis of fat cells *

* Through thermal shock the adipocytes (fat cells) are crystallized, then, through the inflammatory process, they are split and disposed of through the lymphatic system, the gastrointestinal canal and the hepatic pathway in a period of about 30 days.

ATTENTION! Although it would seem an excellent tool for both the competitive athlete and the amateur sportsman, before entering the Cryosauna it is good practice to undergo a thorough medical examination that certifies our physical fitness.

TRAIN WITH YOUR HEART, BUT ESPECIALLY WITH YOUR BRAIN!