

THE WAY OF A CHAMPION

STRENGTH AND CONDITIONING GUIDE
FOR VOLLEYBALL PLAYERS

DAWID GADULA



THE WAY OF A CHAMPION

STRENGTH AND CONDITIONING GUIDE
FOR VOLLEYBALL PLAYERS

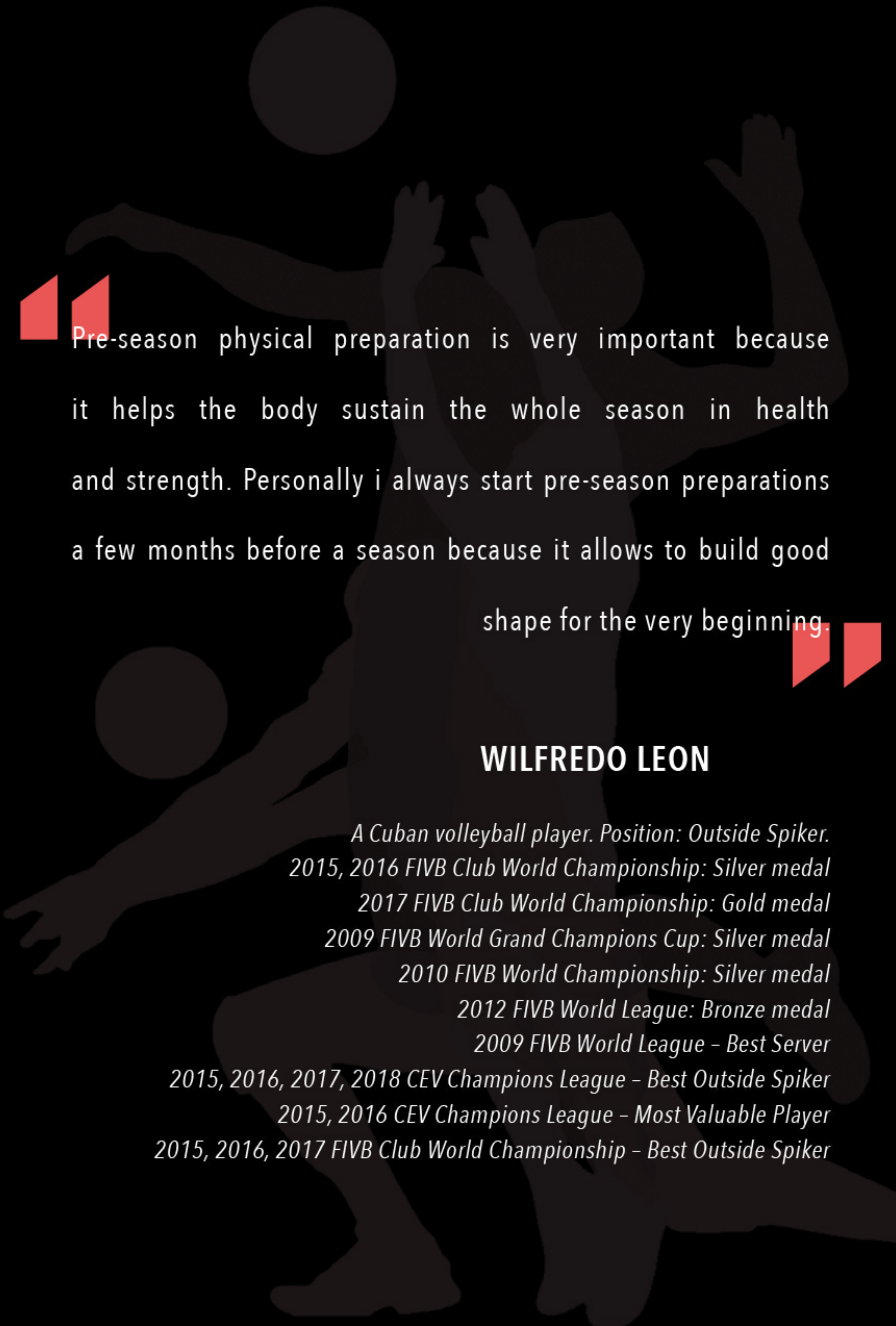
DAWID GADULA



CONTENTS

FOREWORD	6
WHAT IS STRENGTH AND CONDITIONING TRAINING AND WHY DOES IT MAKE YOU BETTER?	11
INDOOR VOLLEYBALL. GAME DESCRIPTION	17
FUNDAMENTAL ELEMENTS OF STRENGTH AND CONDITIONING	21
FOUR PILLARS	27
FOUNDATION OF ATHLETICISM – STRENGTH!	28
TRAIN WITH POWER!	32
KEEP UP THE HIGH TEMPO!	34
MUSCLE MASS	37
PERIODIZATION	41
TRAIN YOUR MOVEMENT!	61
BASIC STRENGTH EXERCISES	65
BASIC EXERCISES ALLOWING FOR POWER GENERATION WITH THE ATTAINED MAXIMAL STRENGTH	168
TIME FOR PLYOMETRICS!	207
TECHNIQUE	212
TRAIN IN FULL RANGE OF MOTION	214
FOCUS	215
BREATHE	215
LOAD	216
MAINTAIN THE TEMPO!	220

TIME UNDER TENSION (TUT)	225
IMITATION	229
STABILITY, OR SAFETY'S OFF	233
MOST COMMON PROBLEM AREAS FOR A VOLLEYBALL PLAYER?	237
KNEE	237
LUMBAR SPINE.....	238
SHOULDER.....	239
ANKLE	240
WOMAN VS MAN - DIFFERENCES IN TRAINING	244
STRENGTH TRAINING AND AGE.....	248
TRAINING MONITORING.....	251
INJURY PREVENTION	256
ROLL THIS!.....	257
STRETCH OUT!	259
MOBILITY.....	261
SAMPLE TRAINING PLANS	265
SAMPLE WARM-UP.....	265
STARTING STRENGTH	270
TEXAS METHOD	273
5/3/1	275
SOLID NEOPHYTE PROGRAM	280
CANADIAN ASCENDING / DESCENDING POWER TRAINING	281
STRENGTH STANDARDS.....	288
SUMMARY	291
REFERENCES.....	293



Pre-season physical preparation is very important because it helps the body sustain the whole season in health and strength. Personally i always start pre-season preparations a few months before a season because it allows to build good shape for the very beginning.

WILFREDO LEON

A Cuban volleyball player. Position: Outside Spiker.
2015, 2016 FIVB Club World Championship: Silver medal
2017 FIVB Club World Championship: Gold medal
2009 FIVB World Grand Champions Cup: Silver medal
2010 FIVB World Championship: Silver medal
2012 FIVB World League: Bronze medal
2009 FIVB World League – Best Server
2015, 2016, 2017, 2018 CEV Champions League – Best Outside Spiker
2015, 2016 CEV Champions League – Most Valuable Player
2015, 2016, 2017 FIVB Club World Championship – Best Outside Spiker

PREPARE

10

TECHNIQUE

TECHNIQUE

technique (quality) > load (kg)

Strength training is often the most important choice in an athlete's career, especially if they want to improve their performance. But the same type of training can hinder progress or – in extreme scenarios – lead to excessive loads and pain, which adversely affects performance.

Whether an athlete will benefit from motor skill training and the speed of their progress depends on several factors. The most important of them are, correct planning of the macrocycles, mesocycles and microcycles (selecting methods and exercises) and the athlete's health.

During a single strength training session, assuming that the training plan was created properly, the most important thing is the technique of the exercises. It is the key factor in determining the results of your work. The more careful and diligent is every single rep, the more benefits they bring.

Correct technique is intended to minimize loads, which the body has to support and secure the athlete from the excessive loads. Correct performance of the exercises trains muscle groups which are the priority in a given movement. Avoid

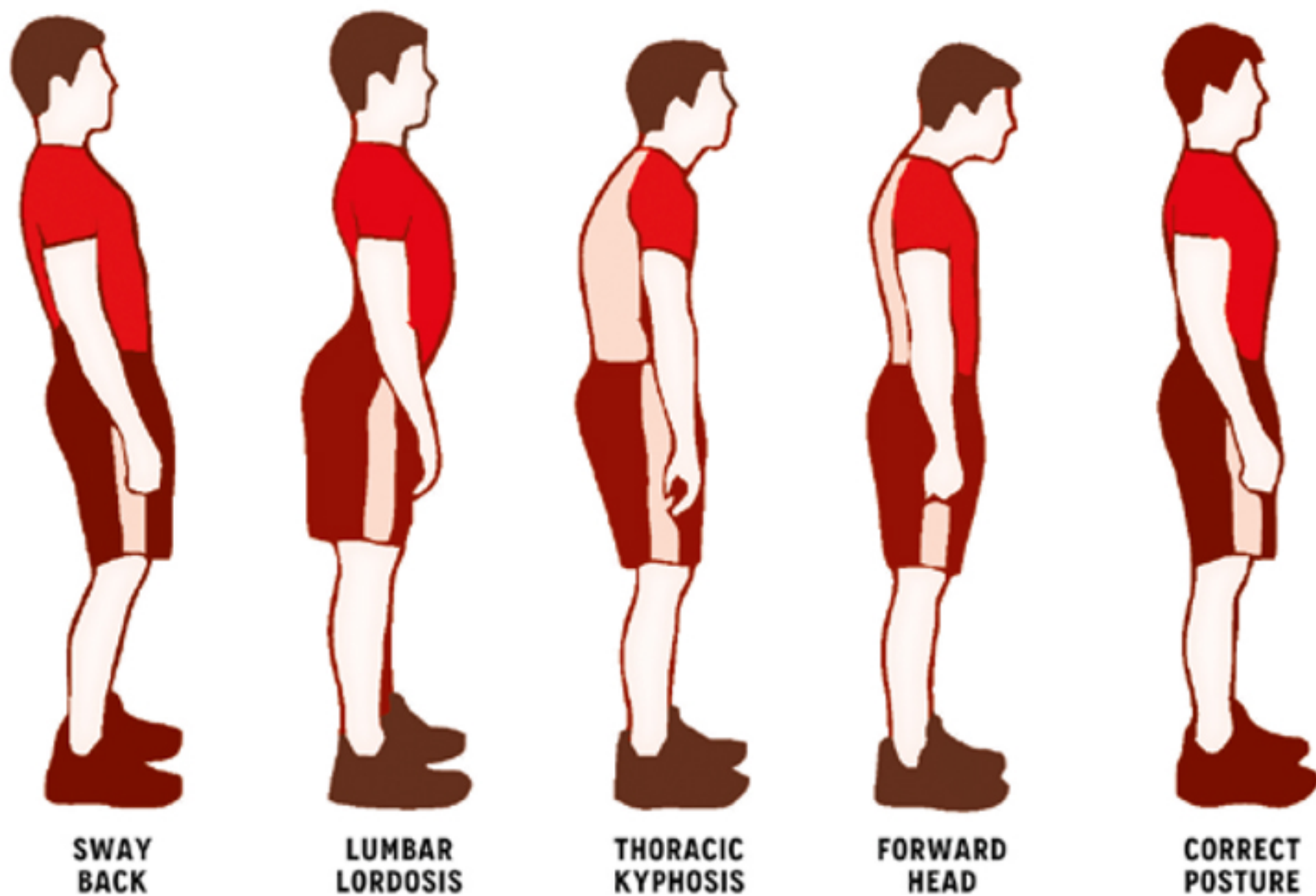
any compensation by other muscle groups, which should be inactive during this particular movement and prevent excessive loads, which may cause injuries.

The starting position for many exercises requires you to set up a position where the entire body works in accordance with anatomy and physiology. Ears should be above the shoulder line, chest above the pelvis, hips in one line with the knees and ankles.

Starting position should look as follows:

- ▶ head neutral, slightly retracted (double-chin),
- ▶ chest up, above the pelvis, the bottom ribs are lowered ("pressed into" the stomach) on inhale and simultaneous contraction of the abdominal muscles,
- ▶ shoulders rotated externally, scapulas depressed (lowered) and retracted towards the spine,
- ▶ braced abdominals, slightly sucked in stomach,
- ▶ buttocks (gluteus muscles) tight,
- ▶ feet hip width apart in the starting position,
- ▶ feet "screwed into" the floor, rotated externally by about 15-30 degrees,
- ▶ knees rotated externally.

TRAIN IN FULL RANGE OF MOTION



The body and its range of motion is precisely demarcated by human anatomy and physiology. This means that every joint has its own specific mobility and works in defined planes. When we repeat movements with external resistance (e.g. weights) in partial range of motion, pathological changes occur in the body. The forces acting upon the body are not fully utilized by the muscles, which makes them adversely affect the joints. This leads to overloads which can bring about injuries. What is more, the situation where the muscles work in a partial range of motion, can result in spasms of the joint structures and unnatural increase in muscle tension. This causes the sensation of cramping or spasms, because the mobility in a joint moved by these muscles was limited. As a consequence, the risk of injury dramatically increases and the athlete cannot get the most of the training.

Concentration plays an important part during training. Just by focusing on the task at hand you mobilize your body and the nerve impulse sent from the brain to the effectors (muscles) allows them to prepare for effort. Concentrating on performing certain movements engages muscles to a greater extent which increases their activity during exercise. This increases training efficiency and the athlete reaps the benefits.

Just thinking about an exercise creates new neural connections in the brain which improves the quality and efficiency of movement. Movement patterns consolidate and become more automatic. Focusing on training, apart from purely physiological benefits increases training safety and decreases the risk of injury.

BREATHE

The correct breathing pattern provides optimal level of oxygen to the body and removes carbon dioxide. This proves particularly useful in everyday life – especially in situations of higher oxygen demand. Such situation is strength training, where without a proper breathing rhythm muscles may weaken due to insufficient supply of oxygen. In extreme cases lack of oxygen can lead to fainting due to hypoxia. When the oxygen demand is too high, quality of training may decrease - the fatigue of the muscular system rises with the decrease of physical capacity. This can slow down post-exercise recovery.

While overcoming resistance, such as lifting weights, muscles consume more oxygen. Blood pressure also rises significantly. The closer the effort gets to the maximum level, the higher it gets. When the breathing rhythm is disrupted during exercise (e.g. the breath is held), the circulatory system

– which is responsible for providing oxygen from the respiratory system to the cells and for extracting carbon dioxide from the cells back to the respiratory system, where it is excreted in the breath - becomes inefficient. This can lead to some of the described anomalies.

Breathing during strength training should follow the schema below:

- ▶ inhale during a decreased muscle effort (while lowering the weight), for example while going down in a squat or lowering the barbell,
- ▶ exhale during the most intense muscle effort (while lifting, pressing) for example while getting up in the squat or pressing the barbell up.

Remember not to hold the breath in and to inhale through your nose and exhale through the mouth. The diaphragm should work the hardest in the breathing cycle. Such rhythm allows you to efficiently provide oxygen and excrete carbon dioxide from the bod.

LOAD

The development of motor skills occurs only when the body is subjected to stimuli which force particular systems to work and adapt. Muscular strength will not increase if the athlete will not engage the muscular and nervous system to a sufficient extent. The same goes for any other physical skill, regardless whether it's based mostly on the nervous or the muscular system. In order for it to develop, the stimulus has to cross a certain threshold.

Motor skill training means improving movement (its quality and efficiency) while maintaining the best technique possible. The form of the external stimulus is important – the external resistance which forces the body to develop certain physical attributes. Perfect technique alone will not improve motor skills, if it is performed without sufficient load. The athlete's potential will remain untapped. Training with huge weights, without maintaining the proper form, also will not bring you satisfactory results. It can lead to pathological overloads and injuries.

Just like in any other aspect of life, motor skill training requires awareness and balance. That is why professional sport clubs, which train athletes at the highest level, work with specialists who are responsible for strength training.