MUNI SPORT

# STRENGTH TRAINING PROGRAM: TENNIS PLAYERS

Masarykova Univerzita Sports
Strength Training and Conditioning

Erasmus+

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# ABOUT TENNIS

1. Game played with **two opposing players (singles)** or **pairs of players (doubles);**

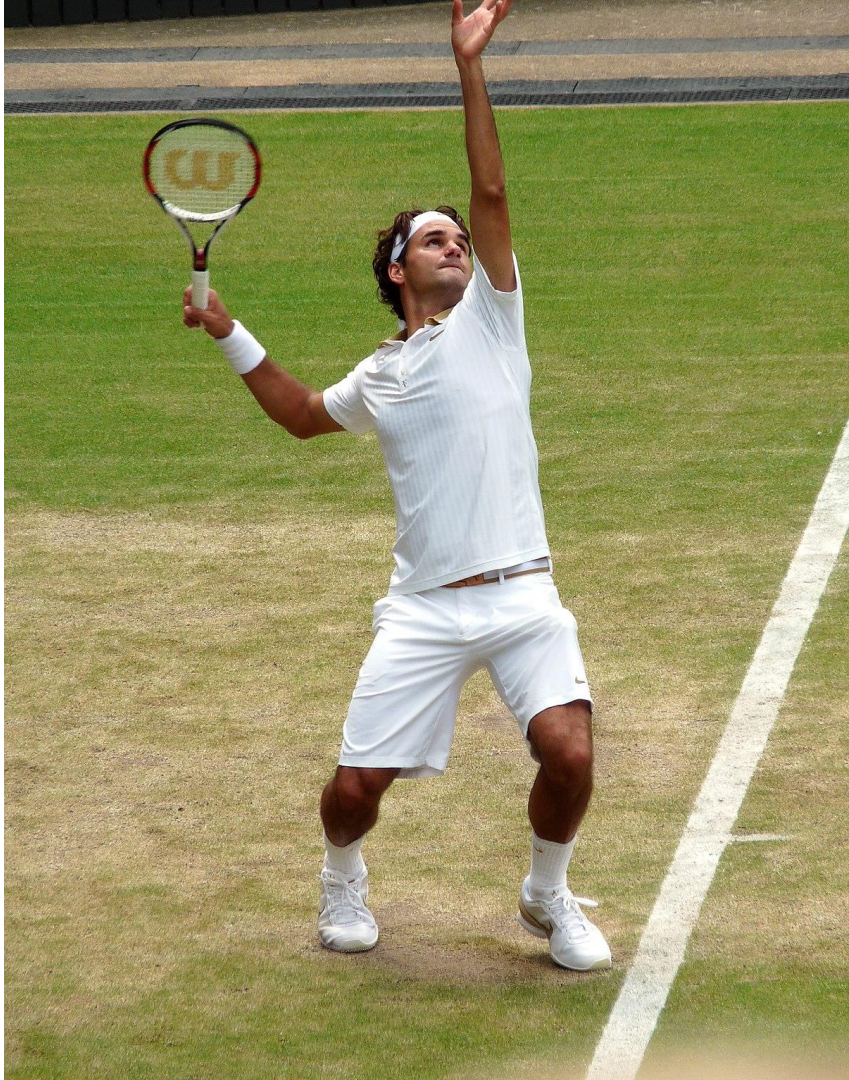
2. Using tautly strung rackets to hit a ball of specified size, weight, and bounce over a net on a rectangular court;

3. A professional tennis match usually takes 2-4 hours to finish.

# INTENSITY OF TENNIS MATCH PLAY

- Combined periods of maximum or near the maximum work;
- Some long periods of moderate activity or low intensity;
- Match intensity varies: players level, style (offensive or defensive), court surface and ball type.

(Fernandez et alii, 2006)



# STRENGTH TRAINING

- It´s an integral part of the preparation of a professional tennis player;
- Tennis involves a lot of muscle work;
- In a strenght tennis training program, you should gradually increase the weight as you vary the exercises performed.

# MUSCLE ACTIVATION

- Trunk muscle activation;
- Abdominal muscle activation (rectus abdominal, external oblique and erector spinae);
- Ballistic muscle activation;
- Stretch-shortening cycle (footwork);
- Upper/Lower body muscle activation.

(Knudson & Blackwell, 2000)

# WHICH FACTORS MAKE SUCCESSFUL TENNIS PLAYERS?

01 SPEED/ QUICKNESS

02 STRENGTH & POWER

03 COPING WITH PRESSURE SITUATIONS

04 ANALYTIC & TACTICAL ABILITY

05 BALANCE/ COORDINATION

06 REACTION TIME

07 AEROBIC ENDURANCE

08 AGILITY

09 SKILL & TECHNIQUE

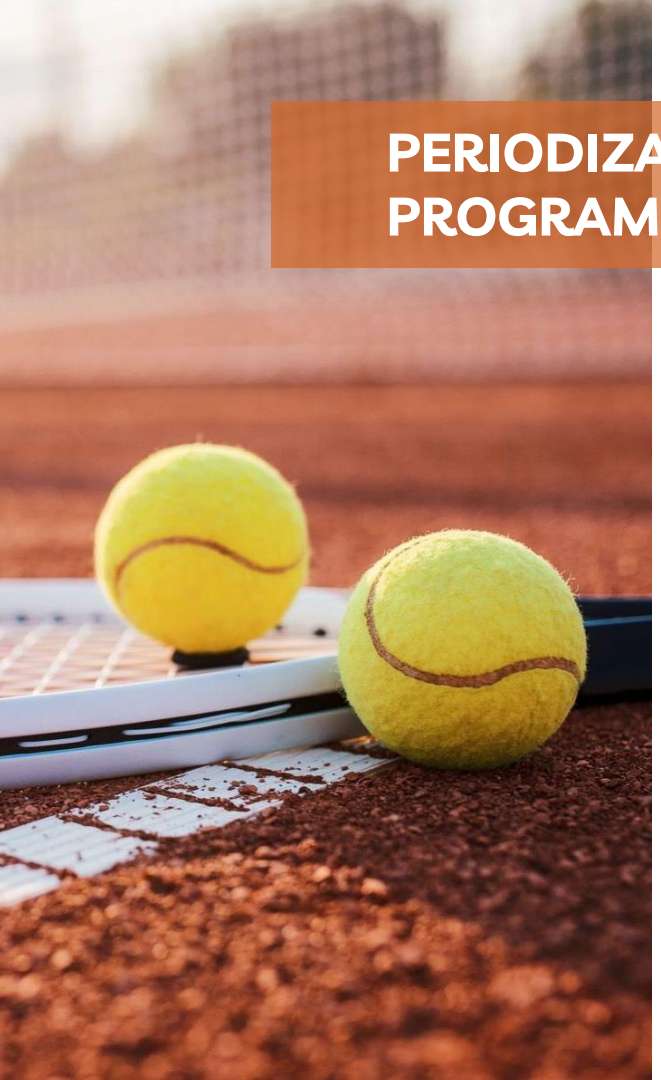
# SPEED

**Speed is one of the most important skills in tennis.**

- This skill is complex and includes speed, impact execution, reaction speed and decision making;
- For a tennis player, it is important to possess all of these skills in the complex;
- Speed abilities tennis depend on the strength of relevant muscles;
- The development of the athlete's high speed skills is related to strength exercises implemented in training.

# WHICH EXERCISES ARE SUITABLE FROM STRENGTH TRAINING TO TENNIS TRAINING PROGRAM?

1. Plyometric training;
2. Yoga / Pilates;
3. Periodised or complex training programs, involving strength, power and hypertrophy;
4. Ballistic weight training.



# PERIODIZATION PROGRAMS

- **Pre-Season** (Functional Strength and Hypertrophy);
- **Late Pre-season** (Power);
- **In Season;**
- **Off** (break) **Season;**
- **Competition** 7-8 months;
- **Peak Performance:** 4 Grand Slams

# EARLY PRE-SEASON

During the early pre-season time, players are preparing for the season and starting to build up after taking a break. Here, the emphasis is on building functional strength and some muscle bulk (hypertrophy).

**Duration:** 6-8 weeks
**Days per week:** 2-3, with at least one day, between sessions
**Intensity:** 8-12/ Reps 70-75% of 1RM
**Sets:** 3-4
**Rest in between sets:** 2-3 minutes

**Principal Exercises:**
•Back Squat;

•Romanian deadlift;

•Dumbell bent over row;

•Dumbell tricep extension or machine pushdown;

•Cable wood chop;

•Lat pulldown (wide grip);

•Bench press;

•Seated pulley row.

# LATE PRE-SEASON TO IN SEASON

In late pre-season, players are working up to the start of the season. At this time, the emphasis is on building power.
Start performing tactical drills and drills related to the game.

**Duration:** Until the season starts
**Days per week:** 2-3
**Intensity:** 1-10 reps at 75–100% of 1RM
**Sets:** 3-4
**Rest between sets:** 2-3 min

**Principal exercises:**

- Half Squat (45°);
- Clean;
- Bench Press;
- Throwing Medicine Ball;
- Vertica Jump;
- Changes in Directions;
- Plyometrics;
- Specific Exercises whit the Racket.


Yoga and pilates lessons between strength
and power workouts to strengthen the core.

# IN SEASON

- At this stage we want to maintain strength and power.
- Alternate between strength and power training. Every five weeks, skip weight training to aid recovery.

**Don't Overschedule**
Do not perform strength training on the days when training is carried out on the field.

**Plan The Time Well**
Rest completely from strength training.
Don't sacrifice court technical skills training for weight work.

# OFF SEASON

- Time to rest up and for emotional and physical renewal.
- For several weeks, stop weight training. Staying fit and active with cross training or other activities is still a good idea.
- Give to the athlete plenty of time to do it all again next year.

# SCHEDULE (3PHASES)

| | EPS | LPS | IS |
|---|---|---|---|
| **Monday** | Strenght Training; Drill Training | Power Training; Drill training | Drill Training |
| **Tuesday** | Day Off | Day Off | Day Off |
| **Wednesday** | Strenght Training/Drill Training | Power Training/Drill training | Drill Training |
| **Thurday** | Pilates/Yoga lessons | Pilates/Yoga lessons | Power Training |
| **Friday** | Strenght Training | Power Training; Drill training | Day off |
| **Saturday** | Day Off | Day off | Strenght Training |
| **Sunday** | Pilates/Yoga Lessons | Pilates/Yoga Lessons | Day off |

**EPS -** Early Pre-Season
**LPS -**Late Pre-Season
**IS -** In Season

# EXAMPLES - TRAINING PLANS (STRENGTH/HIPERTROFY)

- **LOWER BODDY**

| Exercise | Reps | Sets | %RM | Rest |
|---|---|---|---|---|
| **Romanian deadlift** | 8-12 | 3 | 70% | 2-3min |
| **Back Squat** | 8-12 | 3 | 70% | 2-3min |
| **Leg Extension** | 8-12 | 3 | 70% | 2-3min |
| **Calf Raises (DB)** | 8-12 | 3 | 70% | 2-3min |

- **UPPER BODY**

| Exercise | Reps | Sets | %RM | Rest |
|---|---|---|---|---|
| **Lat Pulldown** | 8-12 | 3 | 70% | 2-3min |
| **Bench Press(DB/ BB)** | 8-12 | 3 | 70% | 2-3min |
| **Bicep Curl** | 8-12 | 3 | 70% | 2-3min |
| **Shoulder Press (DB/BB)** | 8-12 | 3 | 70% | 2-3min |

# EXAMPLE - TRAINING PLAN (POWER)

| Exercise | Reps | Sets | %RM | Rest |
|---|---|---|---|---|
| **Clean** | 1-10 | 3 | 75-100% | 2-3min |
| **Throwing Medicine Ball** | 1-10 | 3 | 75-100% | 2-3min |
| **Vertical Jump (loaded)** | 1-10 | 3 | 75-100% | 2-3min |
| **Half Squat (45°)** | 1-10 | 3 | 75-100% | 2-3min |

# MOST COMMON TENNIS INJURIES

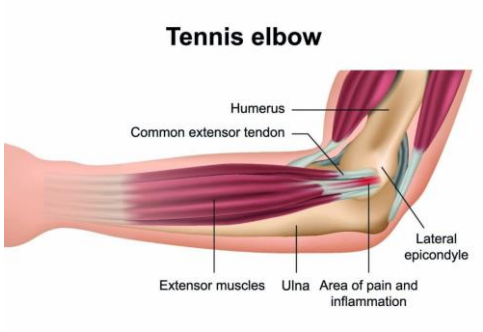
Sports injuries can fall into one of two categories: **acute and chronic.**

- **Acute injuries** result from a singular incident. It may be a strain or sprain. Acute injuries generally lead to sudden pain in the affected area.

- **Chronic injuries,** on the other hand, are built up over time. These injuries result from continual improper use, or simply from overuse of a certain body part.

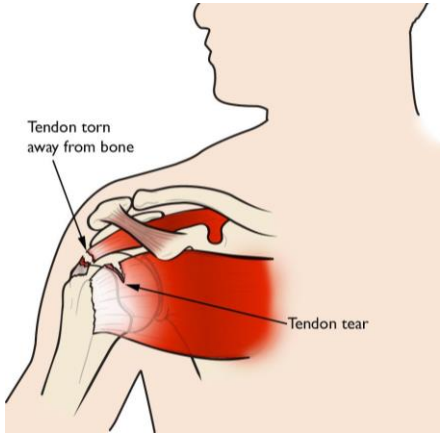
## 1. Tennis Elbow

Occurs when tennis players bend and flex their elbows quickly and often. It causes inflammation in the tendons that connect the muscle of the forearm to the elbow.




## 2. Torn Rotator Cuff

Because the shoulder is central to the operation of the arm, it can often be worn down to begin with. As you maneuver your shoulders during tennis practices and matches, your rotator cuff will naturally wear away even more.

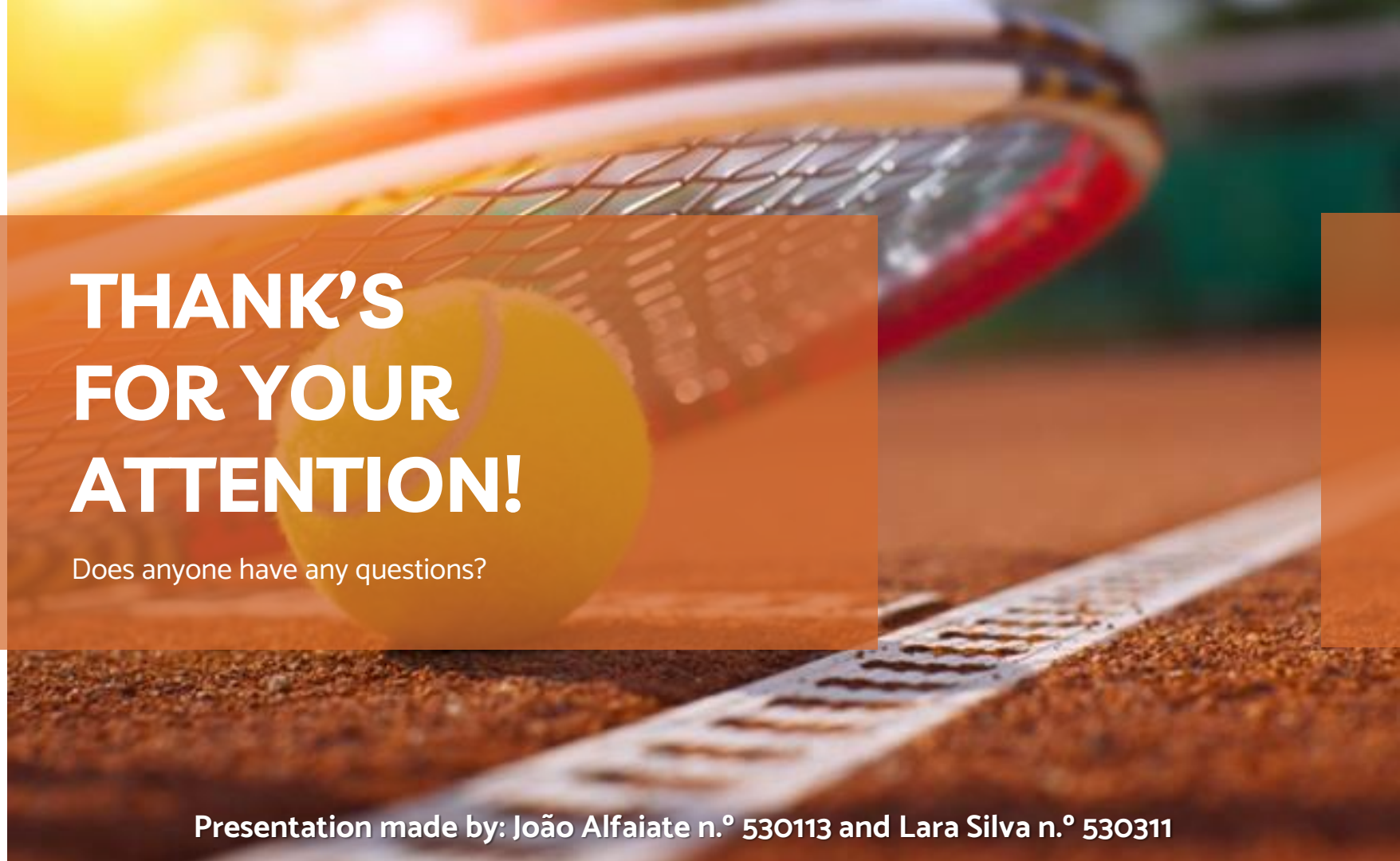


### 3. Achilles Tendon Rupture

Is crucial to the jumping and leaping involved in reaching the tennis ball during games. This injury becomes more likely with chronic overuse and inflammation.

### 4. Tennis Knee: Patellar Tendonitis

Sometimes called jumper's knee, patellar tendonitis can affect tennis players. While jumping and landing repetitively, it's common for tennis players to place immense stress on the knee.



# THANK'S FOR YOUR ATTENTION!

Does anyone have any questions?

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