

**Video** Lecture 9B *(with slides)*

# Recapping concepts of speed and strength training. Programme design rules and considerations

Knowledge & Application  
of Personal Training

LECTURE

9B

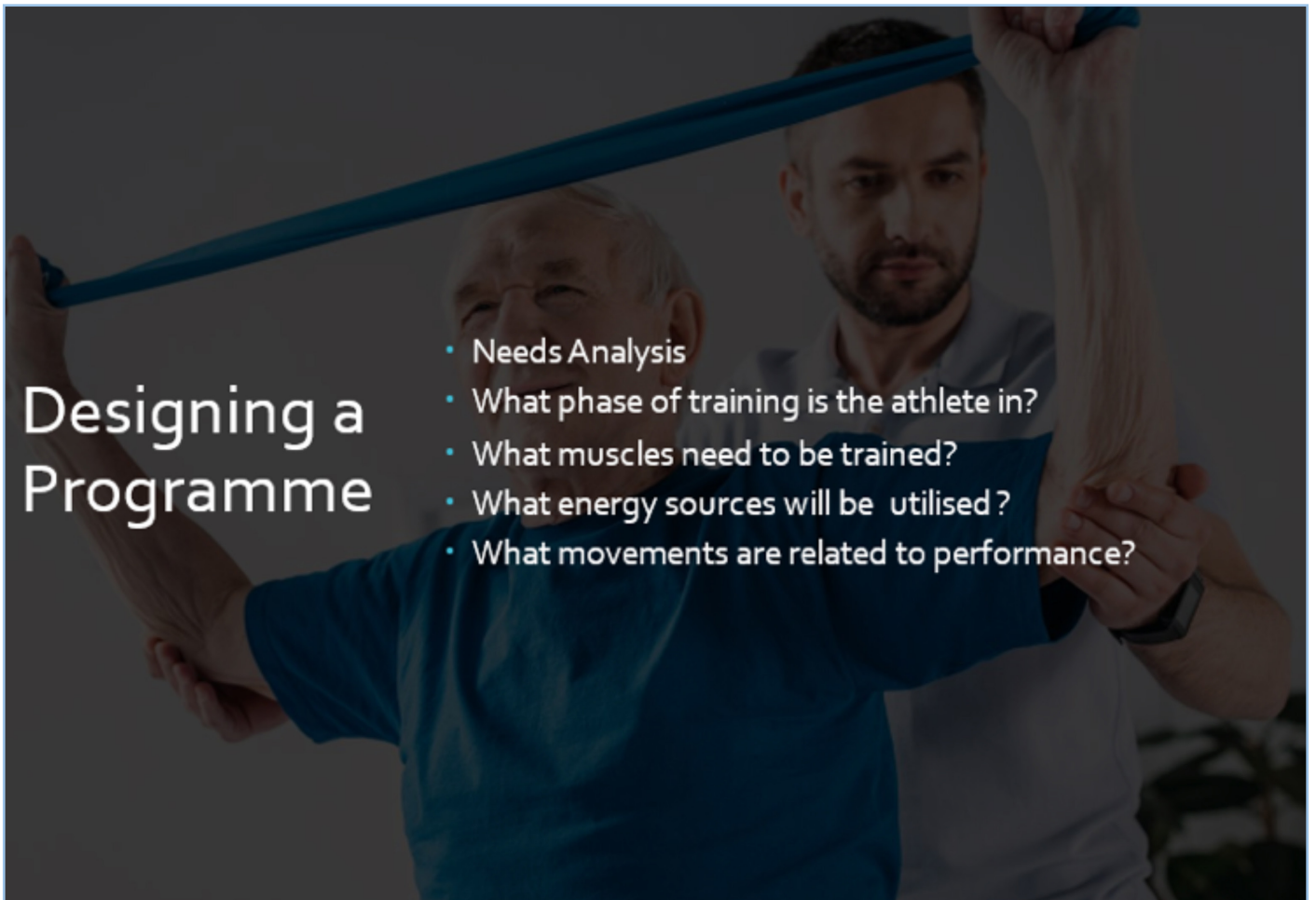
# Hello, and welcome to Video 9B

## of your series for Knowledge and Application of Personal Training

Hello, and welcome to Video 9b. Knowledge and Application of Training, which is going to be a recap of the concepts that we've gone through in Video 9A, reinforcing those principles of tracking and embedding strength training into a programme.

### Designing a Programme

- Needs Analysis
- What phase of training is the athlete in?
- What muscles need to be trained?
- What energy sources will be utilised?
- What movements are related to performance?



Before we can move forward with any types of selection of relating components of fitness to the SMART goal or the client's training ambition, selected training method, and then correct programming of that training method, a needs analysis needs to take place with our client.

We need to think about what phase of training the client is in, and when we're referring to that, we're looking at all the concepts that affect physical fitness that were reviewed - age, previous training experience, how long they've been out of training for - all those lifestyle concepts, all those questions that we need to ask.

What muscles are they looking to train and what muscle groups? What energy sources will be utilized? What movements are relevant to performance? And thinking of performance as a life performance. Life is a performance with lots of smaller performances within there as well. How can we simulate those training needs to match the lifestyle performance? That's what really needs to take place.

Thinking about

- neuromuscular efficiency,
- trainability,
- biomechanical efficiency,
- psychological factors,
- injury, and their fear of injury, and
- fatigue.

Having those considerations in place will really help us make those correct choices and that review process that needs to take place as well.

## Other Considerations

Trainability  
Neuromuscular Efficiency  
Biomechanical Efficiency  
Psychological Factors  
Injury and Fear of Injury  
Fatigue

Just to recap then: when we're talking about strength training, let's just bridge that aspect of saying: "applying load to a movement".

You're applying a particular load to a movement in a particular fashion.

If you think about a walking lunge, you might be holding onto two dumbbells and they will be at waist height. What's the difference between that, and then holding those dumbbells at shoulder height while you do repeated walking lunges?

Variable	Strength	Power	Hypertrophy	Endurance
Load (% of 1 RM)	80 - 100	70 - 100	60 - 80	40 - 60
Repetitions per set	1 - 5	1 - 5	8 - 15	25 - 60
Sets per exercise	3 - 5	3 - 5	4 - 8	2 - 4
Rest between sets (mins)	2 - 6	2 - 6	2 - 5	1 - 2
Duration (secs per set)	5 - 10	4 - 8	20 - 60	80 - 150
Speed per rep (% of max)	60 - 100	90 - 100	60 - 90	6 - 80
Training sessions per week	3 - 6	3 - 6	5 - 7	8 - 14

Think about the number, sets and repetitions and how they impact on those different aspects of components of fitness there and diversifying and breaking down - departmentalizing what strength actually is. And when we apply load to the body, the amount of repetitions we do, the load that we're lifting will impact on power, hypertrophy and endurance, or solely strength work as well.

Doing any one of these will impact on body composition. So it can really help a client in the long term attainment of different goals. It builds up platform and foundation if we're going to start to work on speed, if we're going to start to work on agility. It enables a range of motion and flexibility, while we're still working on speed.

Thinking about our choices of exercise and how we then build that in - does being able to lift five kilograms more going to help you in your long-term attainment of a goal? Simply moving with some load behind it will help you in your fitness ambitions.

You **don't** have to say,

*"I'm going to squat an extra five kilograms which will make me faster, will make me more efficient".*

The chasing of a numerical number with weight can **actually hinder** the client's performance - so that decision-making comes within the needs analysis of the client. The reason why that we're highlighting this is because

if we just solely look at strength and strength - bearing endurance, you're not incorporating all the other components of fitness which might impact on this. And you need to make clear to the client WHY you are making the choices that you do. For a client to make some training choices when they're not in your presence, when they're not coming to see you - do they have that ability to make informed decisions moving forward?

As a trend now, you should be really familiar with the FITT principle and how diversifying that FITT principle, whether you look at the frequency, the intensity, the time or the type, will impact on the component of fitness. You'll also enable that client to continuously train in those areas as well as part of a blended training programme.

We have to understand that doing different training regimes and different training aspects will have different adaptations to the body and how that individual will respond over a period of time as well. So having that good understanding of the physiological body and the adaptations in comparison to whether we're doing strength or hypertrophy training.

Always taking it back to movement. What movement is taking place and how can we impact on the body and what muscles are involved in that movement? Having that structure. You can go on after doing Level 3, to look at Strength and Conditioning courses at Level 4 and above that will give you a little bit more further reading and more considerations and arguments when doing different types of training. And it is important to continue your understanding and knowledge and development of training programmes, design rules, and that further impact.

The biggest concept that you've got is **variabilities**. The programme design rules are good, but the variabilities come with the individual and what their needs analysis might be. So it isn't a one-size-fits-all.

Thinking about your recovery within your session, making sure you've got some structure and format.

Thinking about how you're going to want to test your client. How are you going to want to set your parameters with the numerical weight that they're lifting, and how that impacts on the further training.

Coming back to your strength continuum, understanding that when we move the FITT principle, how that moves you along the continuum and how we want to do our strength training as part of a periodized programme.

Understanding that there are different ways in which we can apply force to a muscle, and actually we want to be having a variety of all of those to make sure that we meet the needs of the client.

Okay, guys. Thank you for that. That's just a recap of all the concepts of strength. Strength is such a diverse, big element there, and it builds as a foundation component of fitness -

- When we're talking about wanting to become faster.
- When we're talking about proficiency and efficiency in movement for speed.
- When we talk about energy systems and our cardiovascular - how we're testing that, how we're monitoring that.
- How we're building the foundation of cardiovascular fitness for long-term lifestyle performance as well.
- How we're building in our flexibility to ensure that we have efficiency and movement and injury avoidance as well, and maybe -
- Just challenging our bodies to move in ways that we haven't challenged before.

So I hope that's been helpful for you guys. I hope that helps you now building on your further reading and your further structuring of training regimes and programmes. Join me on Video 10, where we'll be just going through how to track and monitor your client within a training regime.