

Training stripped back



Our Energy Systems & the Use Of!

Dear All,

My last note explained the principles of motivation, and why Goal setting is so important...Particularly in these challenging times.

The principles of a mesocycle (eight week training blocks) were given, and a reminder of the importance of good running shape, and when to practice.

Today, we look at energy systems. With a better understanding of mesocycles and how to develop our energy systems, you can start to understand the rationale behind training plans.

Remember...Mesocycle is macro level...We then have microcycle where we plan a week of training.

Energy Systems

We train the body in two ways:

- ✚ Metabolic endurance (the energy systems)
- ✚ Neuromuscular endurance (the nervous and muscular systems)

The body has three energy systems

- ✚ **Alactic system** (This is the stored start up system). Capable of operating with no oxygen, no lactate or acid produced
- ✚ **Lactic or anaerobic system**. Capable of operating with no oxygen but produces lactate and acid
- ✚ **Aerobic system**. Uses oxygen and fuel stores to provide energy

We can ignore the Alactic system, it only operates for a maximum ten seconds.

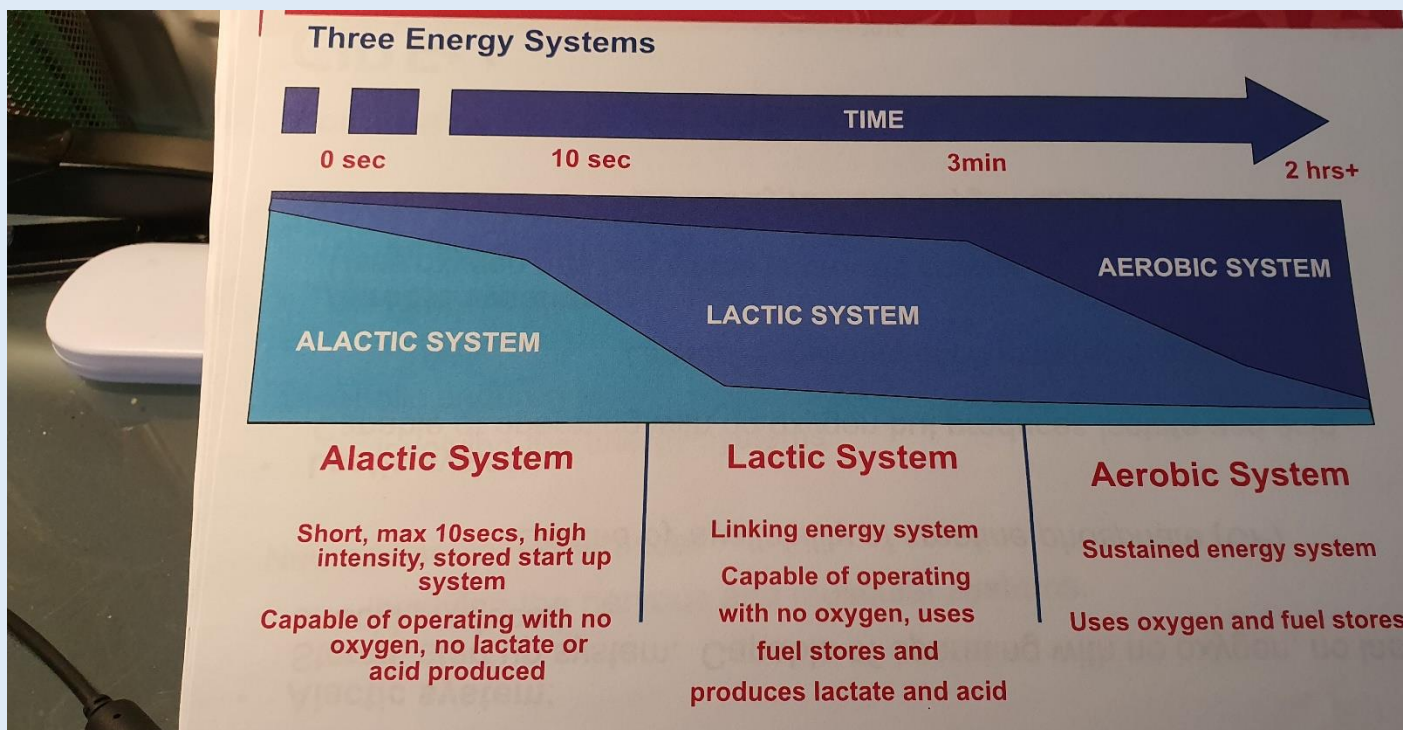
What we need to understand are the Anaerobic and Aerobic systems. These are the two that you will hear mentioned on Tuesday evenings...The two systems that we work to develop.

Anaerobic Training is high intensity work outs. Where we gasp for breath at the finish...Quite simply because we have been operating without oxygen. Hence these are shorter distances as shown on the chart below. We also start to use the term "Lactic Acid".

We tend to look upon Lactic Acid as our enemy. It creates the feeling that develops in our legs and sometimes upper body when we train over shorter distances. A burning sensation.

It does not have to be! Lactic Acid is formed from glucose and at its purest provides energy for muscles.

The problem starts where we create an excess of lactic, that we can't process. This is where it starts to become the enemy. It slows down the blood flow, which is needed to pump oxygen through our body and muscle groups...We slow down!



Our shorter speed work is geared to our anaerobic system. When we shout run through the line, or don't ease up in the final 20/30 metres, there is a reason! The need to prepare the body to create lactic acid and our ability to process it. Remember that training is purely to prepare the body, its fuel systems and processes. We want to be able to benefit from lactic in its purest, and then delay the lactic threshold (the enemy).

Aerobic Training is geared more to distance, but remember that all energy systems work continuously...And based on the particular physical activity.

We are now training **with oxygen**. The chart above demonstrates this. The term VO2 Max also comes into play here. Our VO2 Max is simply the measure of the maximum amount of oxygen that we can process during exercise. The higher your level, the better equipped

become your heart & lungs. The importance? To create high levels of oxygen to pump blood around our bodies and fuel our muscle groups.

We train at a number of intensities within this energy system.

- ✚ High aerobic...Tempo runs. This is when we have ceased being able to run at our Lactic/anaerobic threshold and now need oxygen as a fuel. Because this is an intense session, we prepare the oxygen flow and lungs to cope with faster running. The breathing is more laboured and shorter of intake.
- ✚ Steady state aerobic...Relaxed breathing over a longer distance or an easy run. Not laboured but controlled.

Breathing is only part of it...But an important part. Its breathing and cadence working together that is the real winner. Everything as one! So...On those easy days, practice the two...relaxed breathing and cadence...Until it becomes habit!

Next stages

OK...Understood...Blocks of training and energy systems...

My plan over the next week is to share with you...

- ✚ Key training sessions and rationale
- ✚ Recovery & The mental block.

I have tried to make the subject as simple and understandable as possible. If we have a better rationale of **WHY?** we are more likely to commit to something, and make the improvements that we all want!

Lighter nights are upon us! Enjoy your training.

Best Regards,

Nick

“Running is the greatest metaphor for life, because you get out of it, what you put into it”

Opra Winfrey