FACTS AND FICTION

About Strength Training for Running

MYTH	FACT
I am a runner, therefore I only run	● Strength training has been proven to improve running performance, speed and running economy. It has also been proven to reduce injury risk
Strength training will build too much muscle and bulk for running and add extra weight which may overload my joints	● The correct type of strength training will not cause massive increases in muscle bulk ● Running in itself can help prevent this due to its endurance component ● Strength training can protect your joints by making the supporting muscles and ligaments stronger and more able to withstand impact while running
Strength training should be low weight and high repetitions to mimic the endurance training needed for running	● This is incorrect – greater performance benefits have been shown in studies to come from runners doing high weights/loads and low repetitions as well as explosive exercises
There is no time in my running week to add a strength training session	● Periodisation of training into focused blocks is required ● Pre-season blocks should focus on strength training for 3-4 sessions a week with fewer runs and less mileage. In the build-up to a race or in-season strength training, it can be reduced to 1-2 sessions a week with increased running volume and focus on endurance ● Performance benefits from strength training are greater the longer the programme is done ie. at least 6-20 weeks ● The benefits of strength training are lost quickly when training is ceased ● It has been recommended that dropping one run a week in order to include a strength session, is more beneficial on running performance and injury prevention
Higher training loads causes higher injury rates	● Studies show that higher chronic workloads may actually reduce the risk of injury. ● Reductions in workloads or training may not always be the best way to protect against an injury ● Across a wide range of sports, well-developed physical qualities are associated with reduced injury risk. Overuse type injuries are not caused by training itself, but rather by incorrect training programmes ● Under-training may increase injury risk. Excessive and rapid increases in training loads are likely to be responsible for a large proportion of injuries

TRAIN SMARTER AND HARDER

- Physically hard, but appropriate training, can develop the right physical qualities in your body to protect it against injury
- Monitoring your training load – including running, strength training and work or personal life – is the best practice approach to reducing your injury risk
- Seek the guidance and advice of a trained professional, physical therapist or coach regarding strength training

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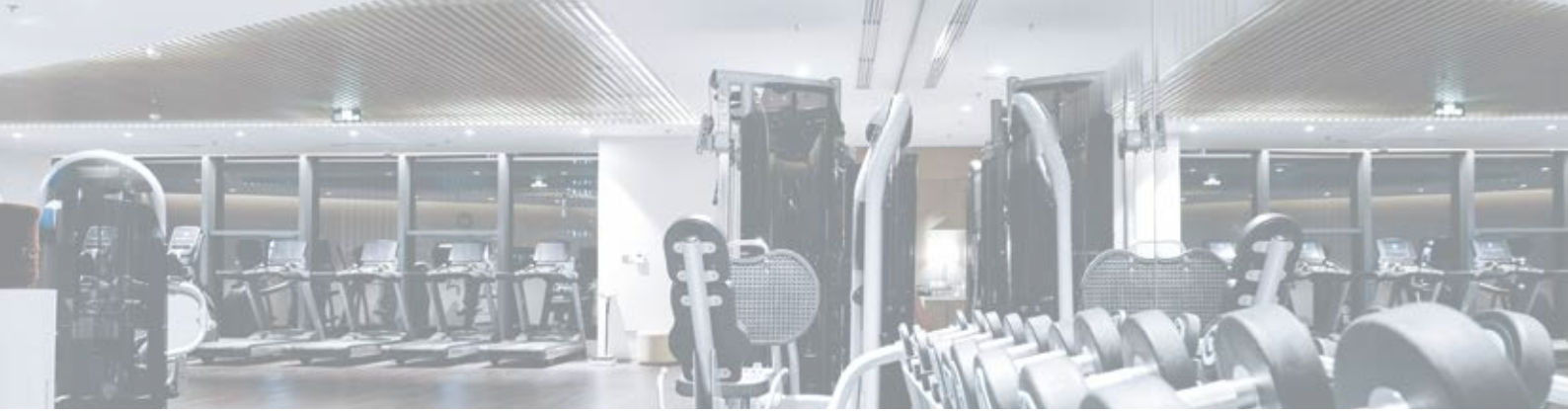

STRENGTH TRAINING RECOMMENDATIONS

- Use free weights (dumbbell, barbell or kettle bell) with exercises that include multiple joints and are closed-kinetic chain exercises. For example: squats, lunges, deadlifts, step ups and calf raises
- Don't only focus on big muscle groups like quads, hamstrings and glutes. Strengthen calf, hip muscles and core
- Follow a progressive programme over at least 8 weeks or more
- Perform 2-3 strength training sessions per week
- Allow at least 3 hours rest and recovery after a hard run before doing a strength session. If running and hitting the gym on the same day, always run first so you don't run on fatigued legs
- Following a heavy strength training session allow 24 hours rest and recovery before doing a hard run
- Periodisation – this involves progressively and gradually increasing the load on your body in a strength session. When you are building strength over weeks the running intensity should be less. As you prepare for a race the strength component should be reduced (but maintained) and the running, endurance load increased.

TYPES OF STRENGTH TRAINING

Heavy Resistance Training
- High loads, weights 80% of 1 RM
- Few repetitions, 5-15 per set
- Adequate recovery between sets 2-3 minutes
- 3-5 sets

Explosive Training
- Moderate load, 60-80% of 1 RM
- High speed/velocity
- Few repetitions, 4-10 per set
- Long rest intervals 2-3 minutes between sets

Plyometric Training
- No load, body weight
- High velocity/speed
- Few repetition 4-10 per set
- Long rest interval 2-3 minutes between sets
- Short ground contact time eg. explosive spring like exercises
- Hopping, jumping, box jumps, bounding, mini hurdles
- 30+ foot contacts per session

INCREASING LOAD AND EFFORT

References:

1. *Lima LCR, Blagrove R. Infographic. Strength training–induced adaptations associated with improved running economy: potential mechanisms and training recommendations. British Journal of Sports Medicine 2020;**54**:302-303.*
2. *Alexander JLN, Barton CJ, Willy RW. Infographic. Running myth: strength training should be high repetition low load to improve running performance. British Journal of Sports Medicine Published Online First: 25 September 2019. doi: 10.1136/bjsports-2019-101168*
3. *Gabbett TJ. The training—injury prevention paradox: should athletes be training smarter and harder? British Journal of Sports Medicine 2016;**50**:273-280*

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