6 well-trained runners were tested during prolonged treadmill running to exhaustion performed into 2 conditions

**FREQUENT**
- Ingestion of a 5g CHO-dose every 5 min during the first 75 min

**LATE BOLUS**
- Ingestion of a single dose of 75 g after 75 min

**RESULTS**

1. The muscle glycogen utilization rate was lower in every participant over the first 75 min of running when carbohydrate had been ingested frequently from the start of exercise.

2. All of them were also able to run for longer compared with when carbohydrate was ingested as a single bolus toward the end of exercise.

3. A moderate positive correlation was apparent between the magnitude of glycogen sparing over the first 75 min and the improvement in running capacity.

**CONCLUSION**

Endurance runners should ingest carbohydrates in small, frequent doses and from the outset of prolonged running to spare muscle glycogen and to improve their performance.