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| **S.NO** | **Title Of The Paper** | **AUTHOR NAME** | **YEAR OF PUBLICATION** | **IMPLEMENTATION** | **PROS** | **CONS** |
| 1 | PRE EXERCISE NUTRITION :The Role Of Macronutrients, Modified Starches And Supplements On Metabolism And Endurance | Michael  J. Ormsbee ,  Christopher W.Bach,and  Daniel A.Baur | 2014 | Endurance athletes rarely compete in the fasted state, as this may compromise fuel stores. Thus, the timing and composition of the pre-exercise meal is a significant consideration for optimizing metabolism and subsequent endurance performance | Inadequate calories and nutrients can impair even the most conditioned athlete, while the right balance of energy and macronutrients will help all athletes perform their best. | A well-planned, nutritious diet should meet most of an athlete's vitamin and mineral needs, and provide enough protein to promote muscle growth and repair. |
| 2 | The myths surrounding pre exercise carbohydrate feeding | [AE Jeukendrup](https://scholar.google.com/citations?user=AeaRAgQAAAAJ&hl=en&oi=sra), SC Kille | 2010 | Carbohydrate ingested 30–60 min before exercise may result in hypoglycaemia during exercise, a phenomenon often called rebound or reactive hypoglycaemia. There is considerable confusion regarding pre-exercise carbohydrate feeding with advice that ranges from consume carbohydrate in the hour before exercise to avoid carbohydrate in the 60 min prior to exercise | While allowing for personal preferences and physiological factors, the pre-event meal should be high in carbohydrates, non-greasy, and readily digestible. | a result, it has been well-established that carbohydrate ingestion during prolonged (>2 h) moderate-to-high intensity exercise can significantly improve endurance performance. |
| 3 | Influence of glucose ingestion on fuel hormone response during prolonged exercise | G Ahlborg, P Felig | 1976 | Healthy subjects were studied at rest and during 4 h of exercise at approximately 30% of maximal oxygen uptake. At 90 min of exercise 200 g glucose were ingested. A control group was studied during prolonged exercise without glucose administration. Glucose ingestion was followed by a 35% rise in arterial glucose, a 60–70% fall in arterial FFA and glycerol and a two-to threefold rise in arterial insulin. | Using your muscles helps burn glucose and improves the way insulin works. That's why blood glucose levels usually come down during exercise. | In regards to carbohydrate metabolism, some of the key adaptations that occur in skeletal muscle with exercise training include enhanced glucose uptake and increased expression of GLUT4 |
| 4 | Pre exercise glucose ingestion and glucose kinetics during exercise | N Marmy-Conus, S Fabris, [J Proietto](https://scholar.google.com/citations?user=9IjBaCkAAAAJ&hl=en&oi=sra) | 1996 | The present study was undertaken to examine the effects of glucose ingestion before exercise on liver glucose output and muscle glucose uptake during exercise. On two occasions, at least 1 wk apart, six trained men (peak pulmonary O2 uptake= 5.11+/-0.17 l/min) ingested 400 ml of a solution containing either 75 g glucose [carbohydrate (CHO)] or a sweet placebo [control (Con)] 30 min before 60 min of exercise at 71+/-1% peak pulmonary O2 uptake | Orally ingested glucose promotes incretin secretion into the small intestine, where it is absorbed and enters the blood. | Glucone D has glucose in it and overconsumption of the drink can lead to the higher sugar level in the body making the child overweight and obese. So, if you want to feed your child this healthy drink, try to limit the use |
| 5 | Substrate usage during prolonged exercise following a pre exercise meal | [EF Coyle](https://scholar.google.com/citations?user=Hr9Huh0AAAAJ&hl=en&oi=sra), [AR Coggan](https://scholar.google.com/citations?user=WJgT59wAAAAJ&hl=en&oi=sra), MK Hemmert | 1985 | The effect of a high-carbohydrate meal 4 h before 105 min of exercise at 70% of maximal O2 uptake was determined in seven endurance-trained cyclists and compared with exercise following a 16-h fast. The pre exercise meal produced a transient elevation of plasma insulin and blood glucose, which returned to fasting basal levels prior to the initiation of exercise | Carbohydrates and fat are the primary substrates for energy metabolism in humans during prolonged endurance-type exercise | With increasing intensity, the contribution of carbohydrates to energy expenditure increases and the contribution of fatty acids to energy expenditure decreases. Substrate utilization under the same exercise intensity is affected by the exercise mode, with fat oxidation being higher in running compared to cycling. |