

Nutrition for Adventure Racing and Other Ultraendurance Sports.



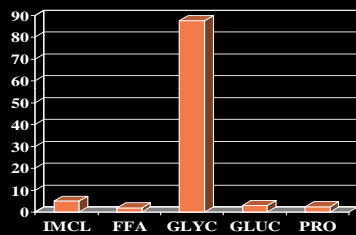
M.A. Tarnopolsky, MD, PhD.
Depts. of Pediatrics and Medicine,
McMaster University, Hamilton, CAN.

What is adventure racing?

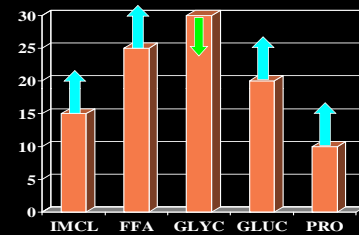
- **Multi-sport team event:**
- **Navigation.**
- **Duration:**
 - Sprint - 4 - 8 h.
 - Overnight - 24 -30 h.
 - Multi-day - up to 10 d.



Acute exercise @ 80 % VO_{2max} 90 min.



Multi-day AR @ 35-45 % VO_{2max} 1100 min.



Helge, JW, et al, *Acta Physiol.* 71:191-, 2007; Lucas, SJ., et al., *Sport Sci.* 26:477-, 2008; Zimberg, et al, *Int J Sport Nutr Exere Metab.* 18:152-, 2008.

Extra demands of ultraendurance sports.

- ◆ 57 % URTI symptoms.
- ◆ 88 % skin wound/infection.
- ◆ 100 % pain.
- ◆ 79 % MSK injury.
- ◆ 16 % GI Sx at finish.



Anglem, et al, *Wild Environ Med.* 19:30-, 2008

Do ultra-athletes get enough during a race?

- ◆ **General recommendations:**
 - CHO = 1 g/kg/h.
 - PRO = 1.6 g/kg/d.
 - Energy ~ 300 - 400 kcal/h.
 - Sodium ~ 1.0 g/h.



Do ultra-athletes get enough?

Sport	Duration	EIN	CHO	PRO
160 km run	24 h	251 kcal/h	0.6 g/kg/h	1.05g/kg/24h

Glance, B, et al. *Int. J Sport Nutr and Exerc Metab.* 12:414-2002.

160 km run	26 h	272 kcal/h	0.84 g/kg/h	1.8 g/kg/24h
------------	------	------------	-------------	--------------

Glance, B, et al. *J Am Coll. Nutr.* 26:553-2002.

477 km AR	67 h	219 kcal/h	0.50 g/kg/h	2.3 g/kg/24h
-----------	------	------------	-------------	--------------

(Zimberg, et al, *Int J Sport Nutr Exerc Metab.* 18:152-, 2008.)

Limitations to adequate food/fluid intake

- ◆ Nausea/vomiting (16 – 70 %):
 - Overheating
 - Hyponatremia (4 – 44 %)
 - Pain/NSAID use
 - Unpalatable food
- ◆ Physical limitations:
 - Availability
 - Biking
 - Paddling



CAN ULTRASPORT ATHLETES GET ENOUGH?

Nausea/Vomiting.

- Tums/Roloids before and during.
- PeptoBismol if worried about water quality.
- Practice eating during training.
 - **TRAIN YOUR GUT!**
- Load well before the race (free food).
- Chew peppermint gum, brush teeth.
- Treat GERD if you are prone to it.

Storage/transport

- **Availability:**
 - Tape gels to stem of bike.
 - Wrap bars around handlebar (dirt).
 - Waterbottles full on bike (watch dirt).
 - Essential to have a pack with a water bladder and tube (CamelBack type).



Thank You-

- Martin Rydlo
- Robyn Allen
- Alan Magi
- Dr. Mike Waddington
- Dr. Doug Mahoney
- Dr. Gianni Parise
- John Markez

