Ultramarathon injuries

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Disclaimer:

- I’m not a long-distance runner

- Who’s never run an Ultramarathon?
Goals:

- Stimulate discussion – share wisdom
- Learn a few random facts about injuries in Ultramarathons
Blisters

- What causes it?
  - Friction: shoes & socks rubbing against skin
How do you prevent Blisters?

- Well-fitted shoes
- Keep feet dry
- change socks regularly
- Good socks
  - avoid cotton
  - synthetic material
  - nylon, wicking socks, Smartwool
How do you prevent Blisters?

- Coat feet w/ lubricant
- Use tape
- Drain large blisters; leave small ones alone
- Trim toenails
- File calluses
ENDURANCE is

After completing the 135-mile Badwater Ultramarathon, a runner’s feet show extreme signs of wear. See what the future holds at www.enduranceis.com. Photo: Glenn Tschilyama.
Apply protective tape or pads to feet if prone to blisters in specific hot spots
Blister tapes & pads

Spyroflex Sterile Blister Dressings
- Help seal out dirt & germs
- Protect wounds for up to 7 days
- Stretch & flex for active people
- Water resistant

2nd Skin Blister Kit
- 1 x Blister Kit
- 1 x Adhesive Strip
- 6 x 2nd Skin Pads
Blister Tx – Moleskin donut pads
What causes Chafing?

- Repeated friction & rubbing of skin against loose clothes or other skin
How do you prevent Chafing?

- Avoid cotton & loose fitting clothes
- Wear clothes made of breathable synthetic material (like CoolMax) to wick moisture away; wear well-fitting bra
- Stay dry – apply Gold Bond, Talcum powder or corn starch to moisture-prone areas
- Lubricant: Vaseline, Body glide, etc.
Chafing prevention
Chafing prevention
Chafing Tx
Blisters & Chafing – final tips

- Never ignore a small, little irritation in your feet
- A little pebble or tiny crease in your sock will come back to haunt you tenfold if you don’t address the issue immediately and aggressively
- Practice taping, lubing, lancing, and coating *before* you have to do it on Race Day
- Create foot problems in training to be able to solve them on race day
Myth:
- It can’t be broken if I can still move it!

Where can you get Stress Fx?

Who cares about a Stress Fx?
Who cares about a stress Fx?
What’s going on?

- 45 y/o runner notices dark red blood in urine 6 hours after his 50K?

- Gross Hematuria
Exercise-related Hematuria

- Aka: March hemoglobinuria (military), Footstrike Hemolysis

- Causes?
  - Trauma to bladder
  - Injury to RBCs (due to repeated trauma when foot strikes ground)
Exercise-related Hematuria

- Usually, runners don’t have any symptoms
- Rarely serious
- **When to consult Dr?**
  - If blood in urine persists > 2-3 days

- **Tx:** none - hydration
What’s going on?

- 25 y/o runner found confused, disoriented, lethargic, staggering on running course.....

- Pt temp:
  - 40°C (oral)
  - 41.7°C (rectal)
Exertional Heat Stroke

What is it?
- Body’s inability to cool itself
- Temp > 40°C
- Feel like garbage
- Confusion, disoriented

How’s this different than Heat Exhaustion?
Exertional Heat Stroke

Tx: rapid cooling!
- Ice baths
- Ice packs to groin, axilla
- Fan
- Fluids

Likely fatal if not treated promptly on site....not in ER!
Heatstroke

- Pt’s condition rapidly improved w/:
  - ice bath
  - Cool washrag to forehead
  - Fan
  - IV fluids
  - Continuous monitoring w/ rectal thermometer
What’s going on?

- 25 y/o runner found confused, lethargic, staggering on running course..... & collapses

- What other problems could be going on?
Exertional Heat Stroke
Exercise-associated Collapse – fatigue, dehydration
Postural Hypotension
Hypoglycemic – low sugar
Hyponatremia – low Na $^+$
Heart attack – MI
Sudden Cardiac Death

Not everything is dehydration or fatigue
Exercise-associated Hyponatremia

• **What is it?**
  - Low sodium during long-endurance exercise
Exercise-associated Hyponatremia

- What causes it?
  - Drinking too much water – overhydration
  - Excessive ADH secretion (hormone released to reabsorb fluid)
Exercise-associated Hyponatremia

- How do they present?
  - Confused
  - Disoriented
  - Collapsed
  - Lethargic

- What type of runners does it usually affect:
  - Novice
  - Slow
  - Female
How much fluid to drink?

- Two ends of the spectrum:
  - Drink everything in sight
  - Restrict fluid intake - water’s for pansies

- So....what’s the answer?
How much fluid to drink?

- Everybody’s water, food & salt requirements are different – not a once size fits all
- Moderation is key
- Affected by environmental factors, weather, exercise intensity, terrain, etc.

- Drink to thirst – drink to replace fluid losses!
- Listen to your body
How much fluid to drink?

• Learn your sweat rate – high variability (500ml-5L/hr)
• Weigh before and after race – difference is good estimate of fluid lost
• For every lb lost, replace w/ 16 oz of fluid
  - if a pt lost 4 lbs during exercise, they should replace w/ (4 x 16 oz) = 64 oz (~ 2 L)
• Most runners tend to underestimate fluid loss – causing dehydration
Jogger’s nipple
Nipple products
Nipple products
I knew I shouldn’t have eaten at Fuddruckers last night
Exercise-induced GI distress

- Runner’s diarrhea – “Runner’s trots”, “the Gingerbread man”
- Cramping
- Nausea/Vomiting
- Bloody stool

- Incidence: > 30%-50
Runner’s Diarrhea

- **Cause: unclear ??**
  - ischemia – poor blood flow to intestines
  - mechanical - repetitive trauma/jarring of bowel
  - diet – high fiber, vegetables, legumes, dairy, caffeine
  - Pre-race jitters, stress
Runner’s Diarrhea

- **Treatment:**
  - Replace fluids, electrolytes
  - Imodium pre-race (for known victims) – don’t take regularly
  - Avoid NSAIDs

- Usually resolves w/in hours or days
Exercise-induced GI distress tips:

- Learn food triggers BEFORE race day – food diary
- Stay adequately hydrated
- Avoid caffeine: coffee/tea, energy drinks/gels
- Experiment w/ energy gels & bars BEFORE race day
- Don’t eat immediately prior to race (~ 2 hr)

- Don’t carb load at Fuddruckers the night before the big race
When to throw in the towel?

- When should you call it quits during the Ultra?
- What’s the nature of the injury?
- Could there be permanent injury?

- What are your goals?
- What’s your motivation?
When to throw in the towel?
Ultramarathon Injury Nuggets

• Take care of your feet
• One size doesn’t fit all to training, nutrition
• Drink to thirst – listen to your body & replace losses
• Learn food triggers before race day
• Know your medical resources – if having problems during training or race day
  (who’s your Sports Med doc?)
Ultramarathon Injury Nuggets

- For every lb lost, replace w/ 16 oz of fluid
- Some collapsed athletes could be critically ill, not just dehydrated and tired
- Tx for heat stroke: rapid cooling
- See a Doc if blood in urine > 2-3 days
- Don’t be the one with bloody nipples
References:

- [www.irunfar.com](http://www.irunfar.com)
- [www.Badwater.com](http://www.Badwater.com)
- [www.badwater.com](http://www.badwater.com) – see 2012 Race magazine for injuries
- Badwater – training & preparation -
References:

- www.saltyrunning.com - Captaining an Ultrarunning Aid Station
- BJSM interview 2013, Dr. Noakes