

Ultramarathon injuries



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SPORTS MEDICINE

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 Tachiyama.



NEVER STOP EXPLORING

www.thenorthface.com

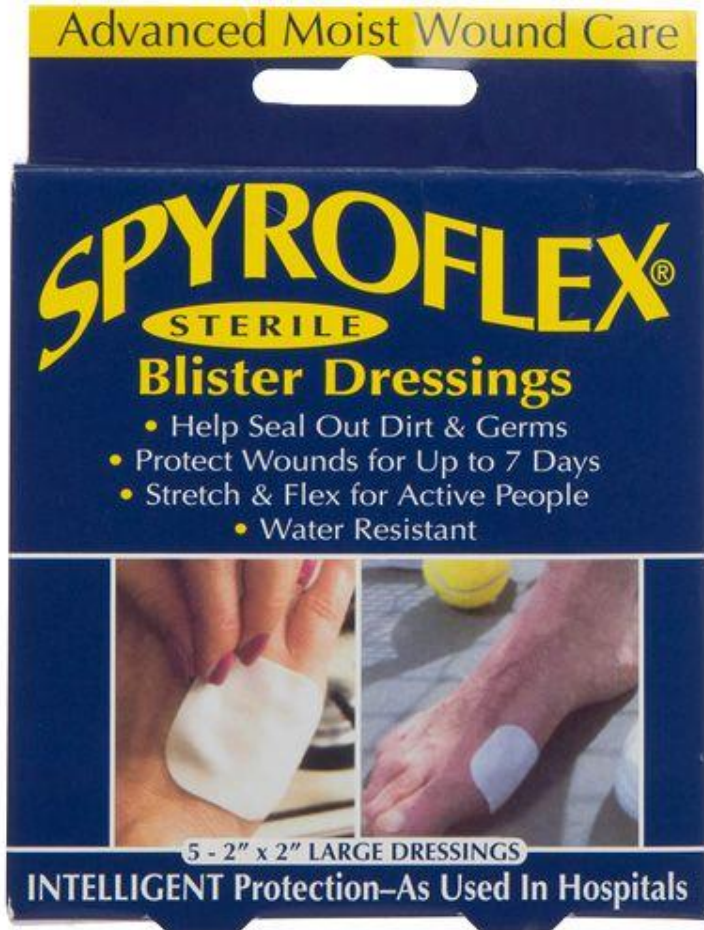
Blisters - tape



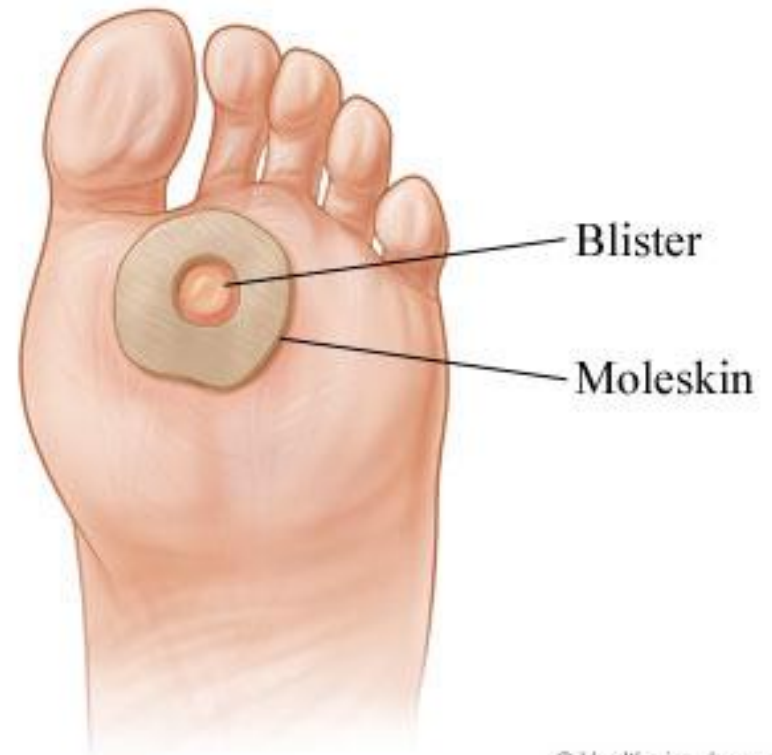
- Apply protective tape or pads to feet if prone to blisters in specific hot spots



Blister tapes & pads



Blister Tx – Moleskin donut pads



What causes Chafing?

- Repeated friction & rubbing of skin against loose clothes or other skin

Chafing-
Does it affect
YOUR *walking?*





How do you prevent Chafing?



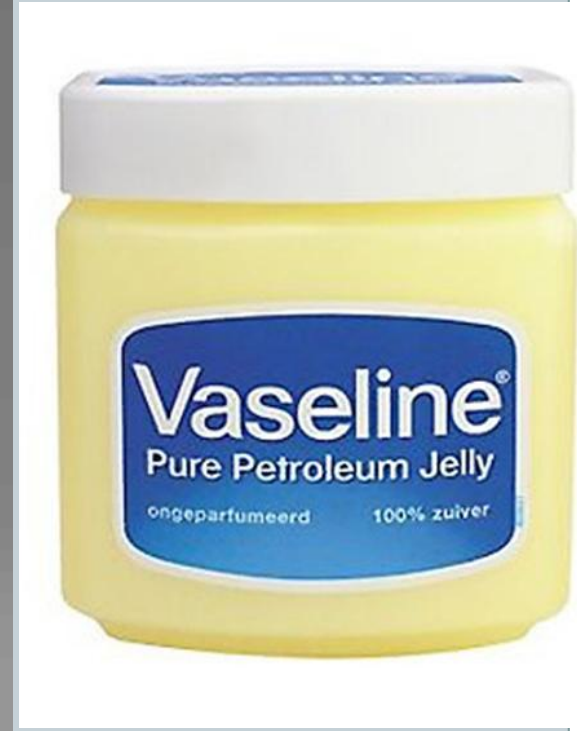
- Avoid cotton & loose fitting clothes
- Wear clothes made of breathable synthetic material (like CoolMax) to wick moisture away; wear well-fitting bra
- Stay dry – apply Gold Bond, Talcum powder or corn starch to moisture-prone areas
- Lubricant: Vaseline, Body glide, etc.



Chafing prevention

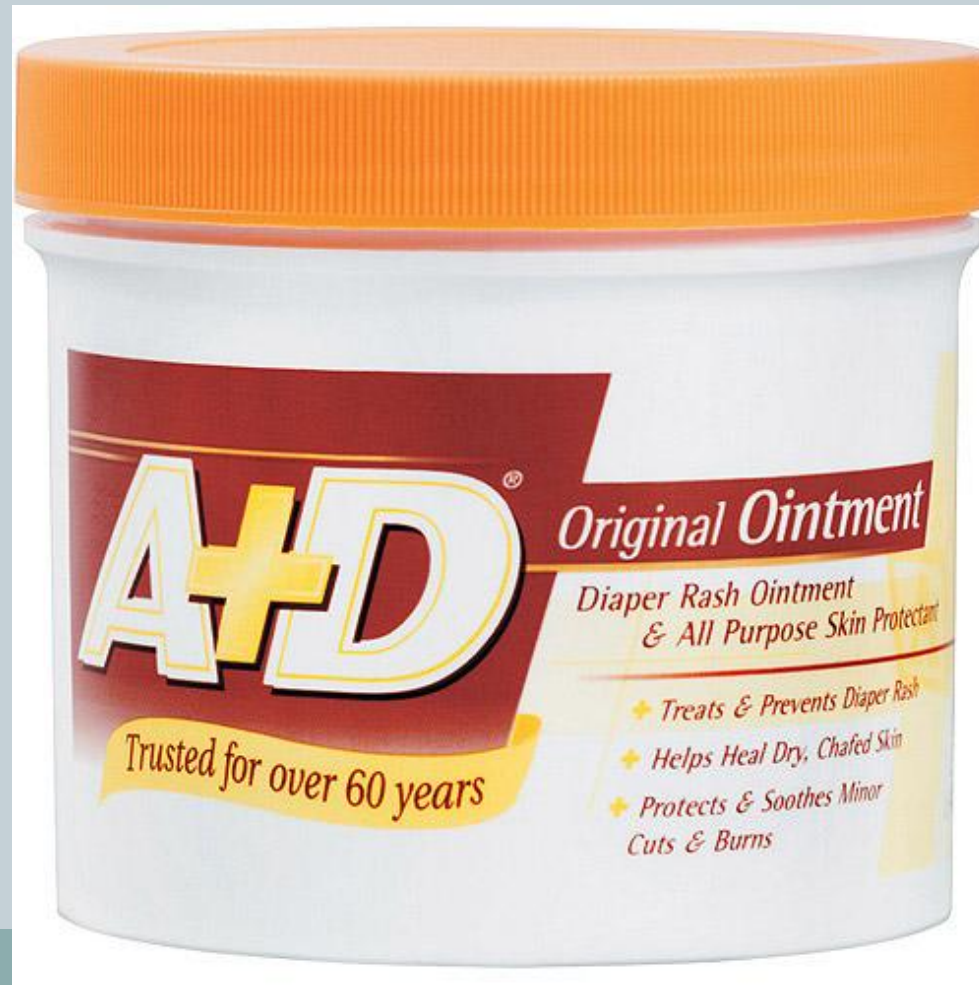


Chafing prevention





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

Stress Fx



- **Myth:**
 - It can't be broken if I can still move it!
- Where can you get Stress Fx?
- Who cares about a Stress Fx?

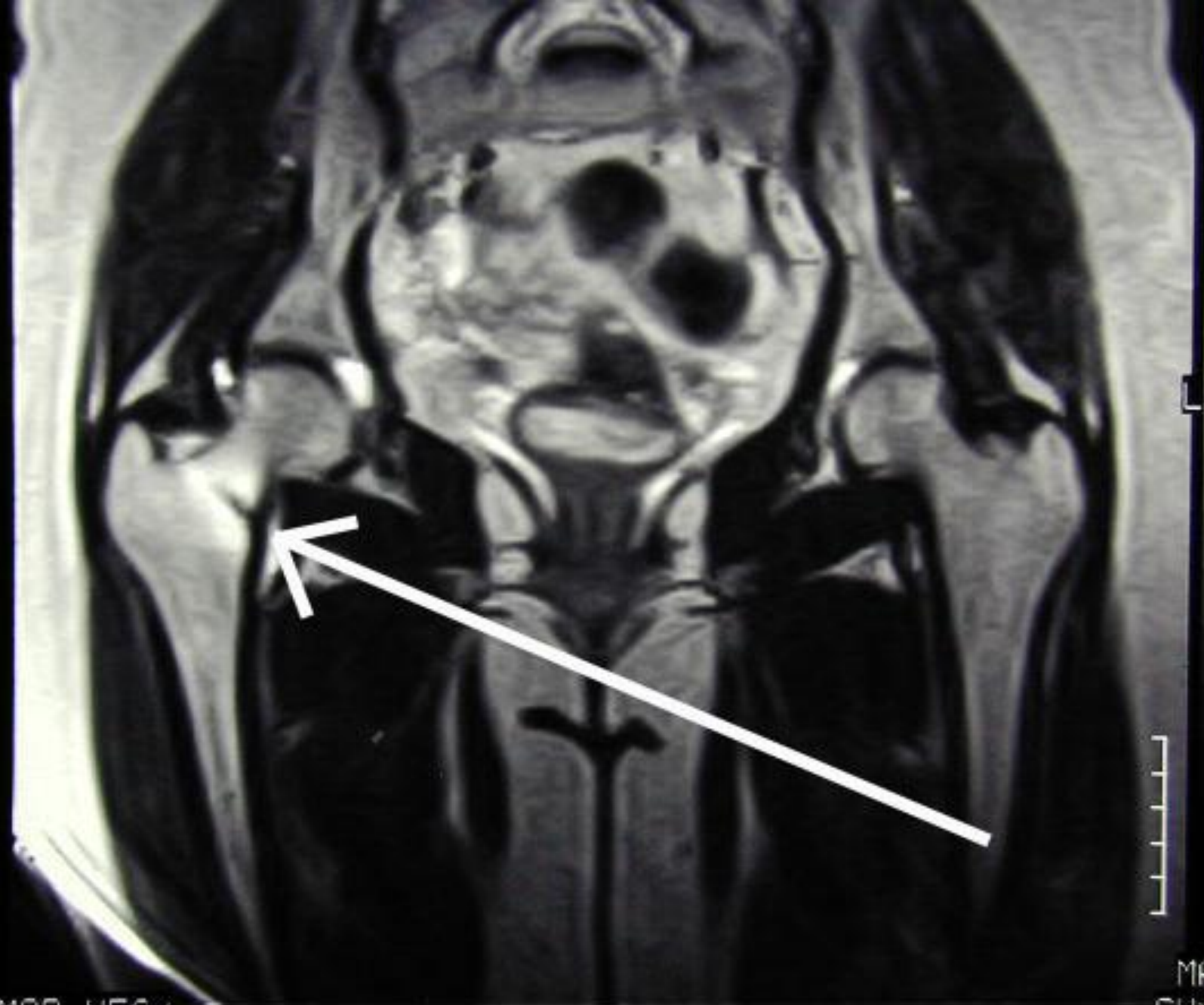


Who cares about a stress Fx?



3100
20
30
6
00
24.0
4T
2
176

70



H
P. 7.5
W12
+5
NS
P1
RS
SA



HIP/TREMOR NEC

MAG*1.
SH*1 RD



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?



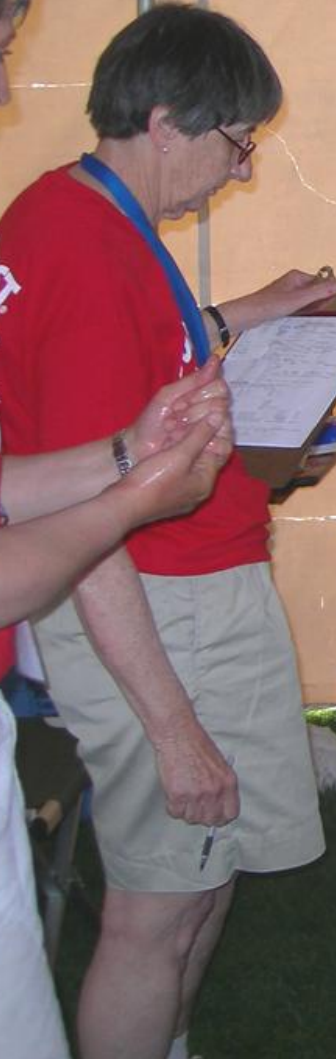
Exertional Heat Stroke

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

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



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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?



Collapsed athlete



- Exertional Heat Stroke
- Exercise-associated Collapse – fatigue, dehydration
- Postural Hypotension
- Hypoglycemic – low sugar
- Hyponatremia – low Na ²⁺
- 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?



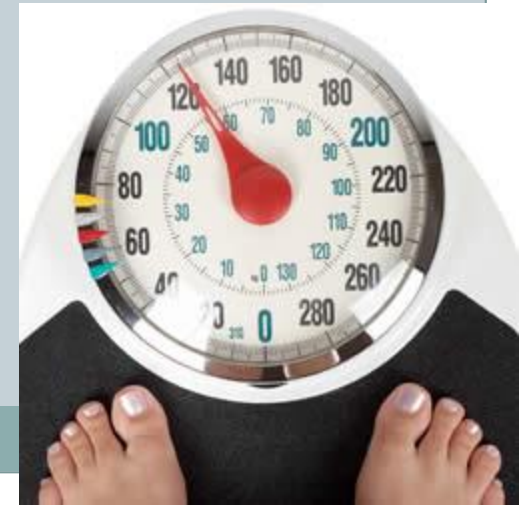
- Everybody's water, food & salt requirements are different – not a one size fits all
- Moderation is key
- Affected by environmental factors, weather, exercise intensity, terrain, etc.

- **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*

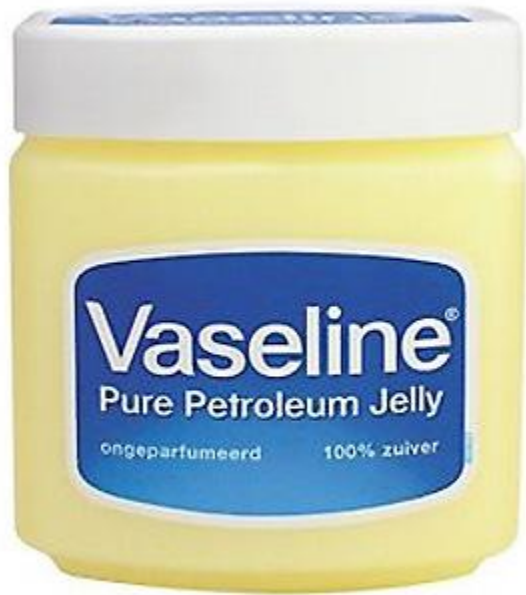


Jogger's nipple





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)
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- Don't carb load at Fuddruckers the night before the big race

When to throw in the towel?

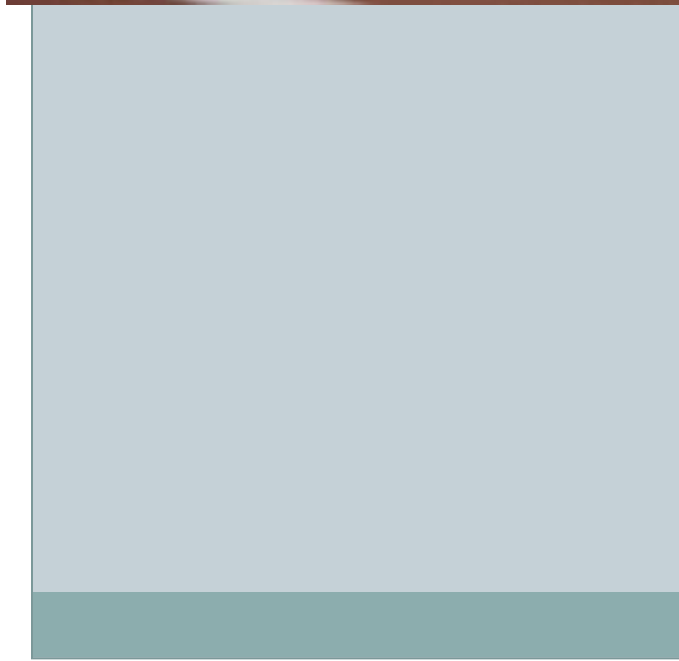
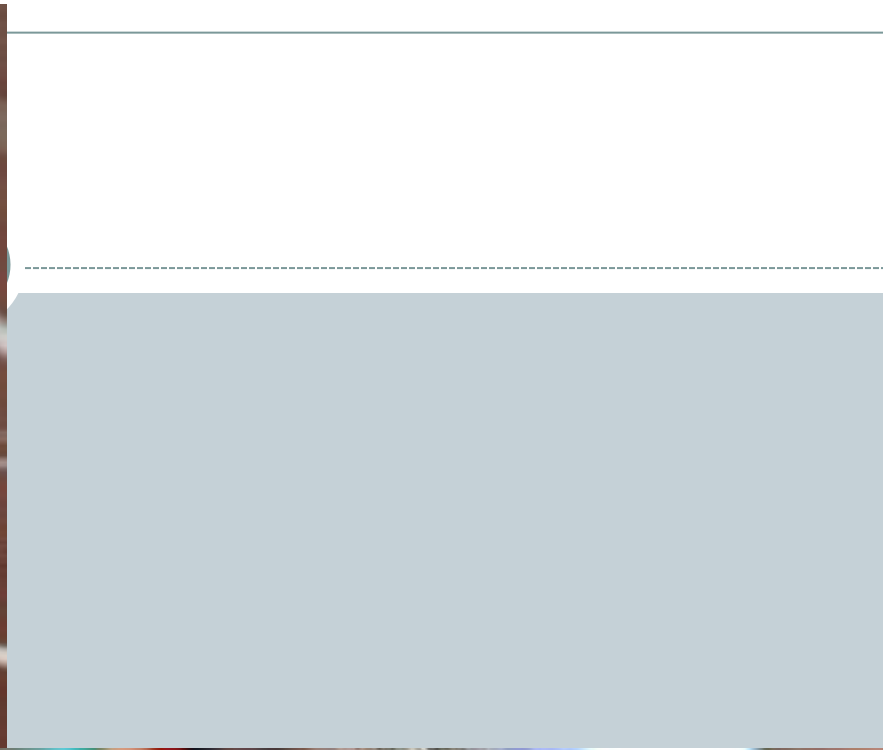


- When should you call it quits during the Ultra?
- What's the nature of the injury?
- Could there be permanent injury?

- What are your goals?
- What's your motivation?

When to throw in the towel?







**Tibial
stress
fracture**

©MMG 2003

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:



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