



# **Singlehanded Transpac Medicine**

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# Disclaimers

- I have never done a transpac
- I am an anesthesiologist
- Impossible to cover everything
  - Get some books and look into them before you go
  - See your doctor and dentist before you go
  - Have a communication plan



# Overview

- Before you leave
- What to bring
- Emergency assessment
- What to do if you get sick
- What to do if you hurt yourself

# Before you leave

- **Ask yourself if you should go / are healthy enough**
  - If you get seriously ill you may
    - put yourself and others in danger
    - lose your boat
- **Do a first aid refresher course**
- **See your doctor**
- **See your dentist**



Before you leave



# See your doctor

- Talk about your plans
- Get a copy of your medical record and leave with somebody who is available
- Get vaccinations up to date (tetanus is the bare minimum)
- Tell your doctor about your allergies, problems, aches and pains
  - **Chest pain????**
  - **Chest pain can be arm, stomach pain or toothache**
- Have a physical
- Have tests if needed (stress test, EKG, labs)
- Get prescriptions
- Get your regular medications
- Ask for additional medication for the trip



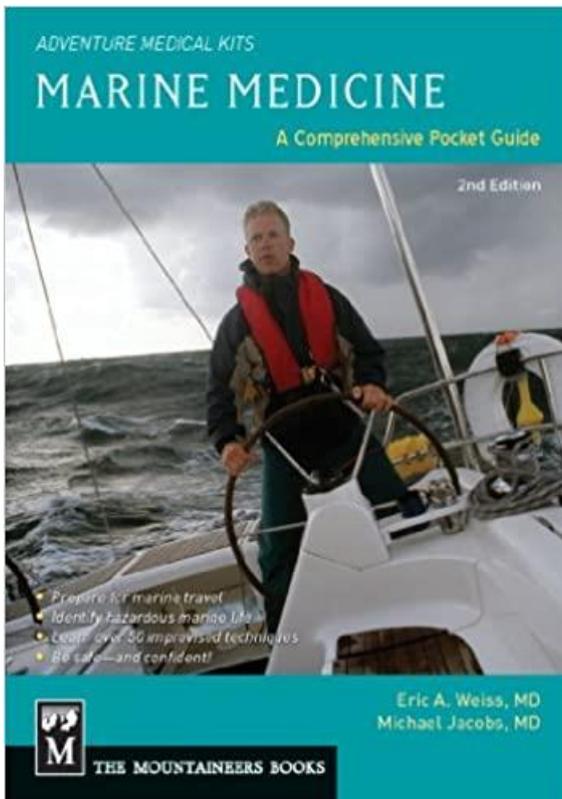
# Where can I get help?

- Race committee
  - In emergencies: fellow racers
- Hotlines (Marine medicine, Doctor you know, PCP)
  - Satellite phone
  - Be prepared to describe your problem
  - Be prepared to provide some data (monitoring)



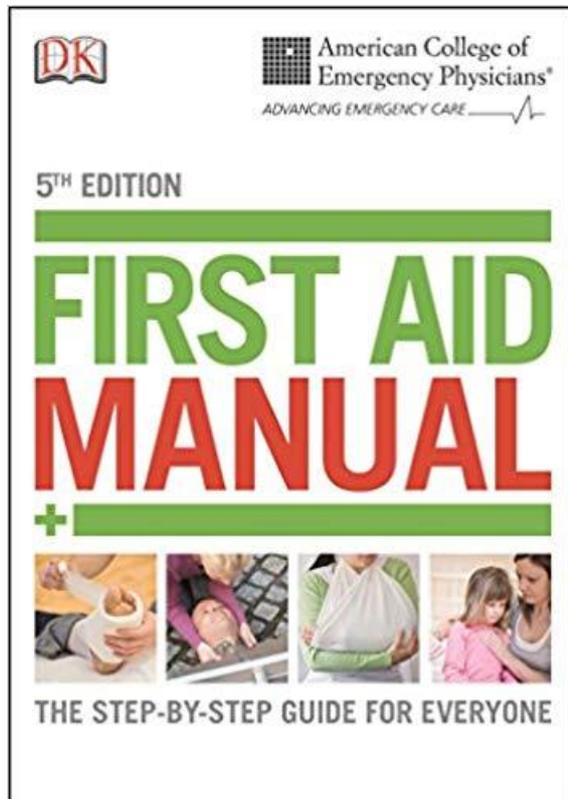
# What to bring

# Books



- Would probably buy the paper version
- Read ahead of time
- About \$12

# Books



- As well the paper version
- As well about \$12
- Look into it ahead of time



# Food

- What you like
- What you need
  - Scurvy takes about 4 weeks to develop
  - Take some fruits anyway (lemons, oranges, cabbage)
- What lasts
  - Make sure to keep it from spoiling
  - Keep your water clean
- Plan on hot drinks and meals for cold days
- Take some emergency rations in case the trip takes longer



# Medication

- Your regular medication
  - Take as prescribed
  - Make sure that you have enough even if your trip takes longer
- All new medications: Watch out for allergies
  - Hives, rash, itching, throat and body swelling

# Pain medication

- Acetaminophen (Tylenol): Max 4 g a day
- NSAIDS (only take one of these):
  - Ibuprofen (Advil): Max 2400 mg a day
  - Naproxen (Aleve): Max 1375=> 1100 mg a day
  - Side effects: Stomach pain, ulcers
- Can combine Acetaminophen and NSAIDS
- Opioids: per prescription only (would not recommend)
  - Watch side effects (nausea, drowsiness, addiction, respiratory, constipation)
  - Some contain Acetaminophen (*4 g rule*): Vicodin, Percocet, Norco, etc.
- Lidocaine cream: Can put on bruises, and put on a tape for back or muscle pain.
- Lidocaine solution: Can inject in area around wound using a thin 26G needle

# Antibiotics

- ***Mostly per prescription, discuss with your PCP***
- Topical: Bacitracin, Polysporin cream
  - Put on bruise, etc as directed in package
- Tablets (dose as per package)
  - Diarrhea: Ciprofloxacin for 3 days
  - Skin infection: Cefazolin
  - Pneumonia: Azithromycin
  - Bladder infection: Bactrim
  - Dental infection: Clindamycin

# Seasickness medicine

- Try it out on another sail
  - side effects can be significant (drowsiness)
  - May not work as intended
- Take enough with you
- Examples: Scopolamine patch, meclizine tablets, phenergan suppositories, zofran tablets
- Suppositories and patches have the advantage that you won't vomit them out
- Actively stay hydrated

# Drops

- Ear drops (for swimmer's ear):
  - Acetic acid (over the counter), can use vinegar or olive oil in a pinch
  - 50/50 vinegar and rubbing alcohol in a pinch
  - Ciprofloxacin/Steroid (per prescription)
  - Avoid Q-tips (injury, abrasion)
- Eye drops
  - Pink eye, corneal abrasion: Ofloxacin
  - Use eye patch and sunglasses as possible and needed (you need to see after all)
- Nasal spray: Afrin



# Diarrhea treatment

- Loperamide (Imodium) works best
- If more than a day start antibiotics
- Bring enough toilet paper  
<https://howmuchtoiletpaper.com/>
- Actively stay hydrated, this will keep you active
- Think about the cause (food poisoning?)



# Hydration

- Bring enough water
- Keep it clean
- Don't forget to drink it
  - Urine should be light, not dark yellow
- If you get seasickness or diarrhea use pedialyte packs, powder, tablets to stay hydrated
  - Readily available at Amazon and elsewhere
  - More compact and better composition than Gatorade, etc.
  - Add sugar if you are weakened

# Medical equipment



- SAM splints- several sizes (\$15)
- Steristrip ( or other) closures (\$10)
- Gauze and nonadhesive pads (maybe a kit?)
- Tape, Scissors
- Ace bandage
- 70% alcohol, betadine
- Isotonic saline to irrigate eyes, wounds
- Forceps to remove splinters

# Monitoring

- You may not be able to diagnose yourself, but you can give this data to a remote doctor
  - Thermometer
  - Fingerclip pulse oxymeter (about \$20 online)
    - Takes pulse
    - Shows how much oxygen in blood, less than 91 is concerning
    - Can see if heart beat is regular
    - Can check perfusion (fracture, tourniquet)







# Sun protection

- Enough Sunblock
- Hats
- Cover your skin
- Sunglasses
- Dodger?
- Stay hydrated



# Emergency assessment

- Am I in danger?
- How bad is it?
- How can I make it better?
  - Think
  - Read
  - Contact RC, other sources
- Can I continue to sail?
- Can I continue to race?



What to do if you get sick



# Chest pain

- Could be a variety of issues
  - Lung: Bronchitis, Embolism, Pneumonia, Pneumothorax, pleuritis
  - Heart: Angina, heart attack, pericarditis
    - **Heart pain can present as arm pain, stomach pain or toothache**
  - GI tract: Ulcer, acid reflux
  - Trauma: Rib fracture
  - Other issues



# Chest pain

- Do you have heart disease? With exercise?
  - Heart, angina
- Sudden onset with shortness of breath, no fever
  - Pneumothorax, lung embolism
- Do you have fever? Cough? Shortness of Breath?
  - Bronchitis, Pneumonia => antibiotics
- Is it dependent on food (fasting or with meals)? Vomiting? Diarrhea?
  - Duodenal or gastric ulcer, gastritis
- Did you fall? Does it hurt with breathing?
  - Rib fracture, contusion?
- => Discuss with doctor
- => Take it seriously, consider evacuation



# Allergy

- If you have known severe allergies, carry epi pens
  - Come in set of 2, very expensive (\$600)
- If you have asthma carry inhalers, etc
- Benadryl can give relief for itching
- ***Breathing problems*** (lung, throat swelling), ***generalized swelling*** or ***blisters*** are an emergency



# Stroke

- Similar symptoms: Dehydration, heat stroke, low blood sugar
- Symptoms:
  - Sudden weakness (face, extremities)
  - Tingling or numbness
  - Problems speaking
  - Loss of vision (partial)
  - Dizziness
  - Seizures
- Stroke can be a bleed or a clot, so careful with aspirin / NSAIDS
- Evacuate



# Shock

- Low perfusion of tissue
  - Can be failure of pump, lack of volume, decreased resistance
  - Heart rate increased, blood pressure decreased
  - Skin is pale, clammy
  - Can be accompanied by confusion
    - Failure of pump: Heart attack, etc (Chest pain?)
    - Lack of volume: Internal or external bleeding => legs up
    - Decreased resistance (blood vessels open):
      - Allergy, anaphylaxis => epi pen, benadryl
      - Infection (sepsis) => antibiotics
      - Spinal cord injuries with paralysis
- Evacuate



# Seizures

- Causes: Stroke, head trauma, low blood sugar, dehydration, electrolytes, others
- Partial or whole body shaking, seizing
- Can just be a short episode of amnesia, confusion, vision disturbance
- Can be accompanied by urination
- Evacuate



# Diarrhea

- Food poisoning:
  - Depending on organism after 6-24h.
  - Prevention is best
  - Often with vomiting, low or no fever
  - Mostly gone in 1-2 days
  - Stay hydrated, try to eat
  - Meds:
    - Zofran, Immodium, Phenergan
    - Ciprofloxacin if not gone in 2-3 days
    - If not better with cipro may be other cause (amoeba, etc.)
      - This and bloody stools are not a good sign



# Urinary tract infection

- Much more common in females than in men
- Burning while peeing
- Frequent urination or urge to urinate
- Feeling tired
- Fever, Chills
- Pain in back or lower abdomen
- All these may be present or not
- Treatment: Ciprofloxacin, Bactrim



# Back pain

- Can be with or without injury
- Pain relief: NSAIDS and / or acetaminophen
- Positioning may help
- If problems with sensibility or movement take it seriously and seek medical advice
- Strongly consider to evacuate if advised



What to do if you hurt yourself



# Trauma

- Initial assessment:
  - Airway
  - Bleeding (external or internal)
  - Consciousness
  - Head and Neck
  - Open wound?
- How bad is it? Do I need to evacuate?
- Immobilize
- Pain relief (Acetaminophen, NSAIDS)



# Head trauma

- Prevention: Keep your head away from spars, etc.
- Can be hard to tell from concussion
- Questions:
  - Can I remember everything? => concerning!
  - Did I lose consciousness? => concerning!
  - SEIZURES? => concerning!
  - Progressive Headache? Nausea and Vomiting? => concerning!
  - Open wound? Hematoma around ears/ eyes? => concerning!
  - Bleeding from ear or nose? Clear liquid from nose? => concerning!
- One can lose consciousness, wake back up and lose consciousness again a few hours later due slow bleed
- Take it very seriously, would evacuate if there is trauma.



# Nosebleed

- Put cold towel on neck
- Use nasal spray (Afrin) if bleeding does not stop



# Eye problems

- All can cause redness, itching, tearing, light sensitivity
- Stop wearing contacts, cover with sunglasses, patch, use eye drops
- Vision problems (dark spots) are concerning => evacuate
- Trauma:
  - Perforation is dangerous, seek help
  - Most other will go away (days)
- Pink eye: Inflammation or infection, can be allergic or viral, mostly goes away (weeks), infectious
- Foreign object:
  - Try to wash out with sterile saline
  - Turn eye lid around cotton swab if that helps
  - very careful with forceps, especially on a boat!
  - Most often the object is already gone but it feels that it is still in the eye



# Chest trauma

- Rib fracture:
  - Very painful
  - Can lead to pneumonia due to breathing limitation
  - Pain medicine to allow deep breaths
- Lung injury:
  - Air or blood in thoracic cavity (pneumothorax or hemothorax)
  - Progressive problems with breathing, weakness, pulse goes up
  - Call for help
- Heart injury
  - Progressive weakness, pulse goes up (pericardial tamponade)
  - Call for help



# Trauma Abdomen

- Pain, can be slowly increasing
- Increasing Heart rate
- Increasing weakness
- Can be with or without bruise
- Call for help



# Spine trauma

- Pain relief: NSAIDS and / or acetaminophen
- Positioning may help
- If problems with sensibility or movement take it seriously and call for help
- Evacuate if advised



# Trauma extremities

- Sprains – ligament, generally no bruise
- Strains- muscles, can have bruise
- Fracture- bone, can have bruise
  - May be in normal position, or not
- Therapy:
  - Immobilize in normal position, cool, elevate
  - Pain control: NSAIDS and Acetaminophen
  - Check pulse
  - Open fractures (broken skin) are an emergency



# Immobilize

- Always immobilize in position of function
- Use sling, splint
- Can improvise with batten, etc
- Do not bandage too tightly
- Check pulse frequently



# Burns

- Keep cool
- Evacuate blisters in sterile technique if painful
- Cover sterily with non-adherent sterile dressing
- Take po antibiotics (Cefazolin)
- Keep moist with saline, sterile (boiled) water
- Any burn more than 5% may need evacuation
  - 5x palm of your hand
- Pain control with acetaminophen, NSAIDS
- Inhalation injury is common with burns, from smoke or fumes
  - Lung injury can be made worse by skin injury (sepsis)
  - evacuate



# Wounds

- Goals of woundcare:
  - Stop bleeding
  - Prevent infection
  - Promote healing
  - Permit continued function
  - Reduce discomfort

- *Weiss MD, Eric A.. Marine Medicine (Adventure Medical Kits) . Mountaineers Books.*

# Wounds

- Stop the bleeding
  - Compress artery for short term bleeding stop
    - Can use belt and crank down. Tourniquet time should be <2h, so open intermittently
  - Pressure dressing (check for pulse!)
  - QuikClot Sport hemostatic agent and QuikClot Emergency Dressing
  - Can use nasal spray (Afrin)
- Wash, disinfect
  - Istoponic saline
  - Alcohol, betadine
- Cover sterilly
- Antibiotics: Ointment or Cefazolin tablets
- Do not suture but put sides together
  - Steristrips
  - Can use other tape as described in Marine Medicine
  - Dermabond, OTC Nexcare glue
  - Do not use superglue
- Pain control with Acetaminophen, NSAIDS
  - NSAIDS can prolong bleeding
- Blisters and abrasions are treated like wounds

