Be Prepared

Evacuation or not?

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Level of danger

- **Myocardial infarction:** USA > 1 million annually, *death in one third* (50% occurring within the first hour). With complications, mortality rate > 90%.
- **Stroke:** > 795,000 strokes per year in the United States, the leading cause of disability, *1 million neurons die each minute that treatment is delayed.*
- **Appendicitis:** 7% to 12% in the general population, *mortality rate of about 3% in patients with perforated appendicitis.*
- **Acute cholecystitis:** in 1 to 2% of patients with acute cholecystitis, the gallbladder will perforate into an adjacent hollow viscus, creating a cholecystenteric fistula, *gallstone ileus occurs in 10 to 15% of patients with a cholecystenteric fistula.*

Limitations of emergency medical evacuations

- “A member with contagious airborne pathogens may not be transported.
- A member beyond the second trimester of pregnancy may not be transported if the transport request relates to the pregnancy.
- A member with mild lesions, simple injuries such as sprains, simple fractures or mild conditions which can be treated by local doctors and do not prevent the member from continuing his or her trip or returning home does not qualify for air medical transport.
- A member suffering from a psychiatric or mental disorder that is not manageable and will not allow safe transport within the confines of the ground ambulance and aircraft may not be transported.”

  (Mayo Clinic Hospital – AirMed Terms and Conditions 2013)
- *Expensive at the cost of tens or even hundreds of thousands of dollars.*

Preparation

- “ People don’t realize when they travel overseas that medical care won’t always be comparable to the United States, whether in Mexico, parts of Europe, Africa or Asia”
- Expats should always “CAKE”:

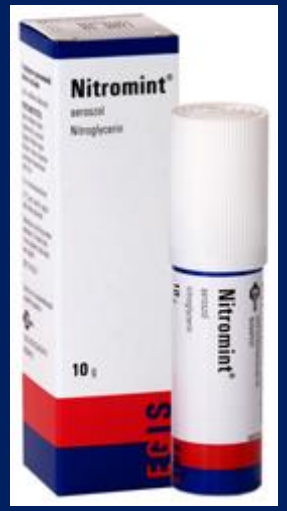
1. Carry a recent medical record and list of medications on a flash drive or in a PDF on your phone.
2. Aware of (educate themselves) to symptoms they may experience wherever they are going.
3. Know what insurance will cover in an emergency.
4. Engage third-party provider.

Chest pain: Cardiac or Not?

- The typical pain of myocardial ischemia: retrosternal or epigastric squeezing, crushing, or pressure-like discomfort.
- Radiate to the left shoulder, jaw, arm, or hand.
- Associated: difficult to breath, sweating, nausea, light-headedness, or profound weakness.
- The typical pain of chronic stable angina is episodic and lasts 5 to 15 min. It is precipitated by exertion and relieved with rest.
- ***Symptoms that last less than 15 seconds or are constant over days are less likely to be ischemic in origin.***

Acute Myocardial Infarction (acute MI)

- Ischemic pain that lasts longer than 15 min, is accompanied by diaphoresis (sweating), shortness of breath, nausea, or vomiting.
- It is also not relieved by nitroglycerin or rest.



Stroke

Symptoms of Stroke	
Traditional symptoms	(1) Sudden numbness or weakness of face, arm, or leg – esp. unilateral; (2) Sudden confusion or aphasia; (3) Sudden memory deficit or spatial orientation or perception difficulties; (4) Sudden visual deficit or diplopia; (5) Sudden dizziness, gait disturbance, or ataxia; (6) Sudden severe headache with no known cause
Nontraditional symptoms	(1) Loss of consciousness or syncope; (2) Shortness of breath; (3) Sudden pain in the face, chest, arms, or legs; (4) Seizure; (5) Falls or accidents; (6) Sudden hiccups; (7) Sudden nausea; (8) Sudden fatigue; (9) Sudden palpitations; (10) Altered mental status.

Ruptured Abdominal Aortic Aneurysm

Who should be suspected of ruptured AAA?

- Male > 60 years, smoker with atherosclerosis/pulsatile abdominal mass who presents with sudden onset severe back or abdominal pain, hypotension.
- > 50% describe a severe, abrupt, ripping or tearing pain.
- May present with syncope or some variation of unilateral flank pain, groin pain, hip pain, or pain localizing to one quadrant of the abdomen.
- Nausea and vomiting are commonly present.

Appendicitis

Who should be suspected of acute appendicitis?

- *Umbilical abdominal pain that migrates over several hours to the RLQ of the abdomen.*
- Associated symptoms include nausea, vomiting, anorexia.
- Low-grade fever (typically 37.5–38.0°C) may be present; fever rarely exceeds 39 °C.

Acute cholecystitis

Who should be suspected of acute cholecystitis?

- RUQ pain and fever are the most common features, sometimes radiating to the right shoulder or scapula.
- It usually lasts less than 6 hours, is persistent, is not colicky, occurs after a fatty meal.
- Nausea and vomiting are often present.
- Highest incidence of symptoms between 9 pm and 4 am.
- 20% of patients are jaundiced.

Recommendations on evacuation

- **Acute MI:** none
- **Stroke:** none
- **Rupture AAA:** none
- **Appendicitis:** none
- **Acute cholecystitis:** possible
- **Stable angina pectoris:** possible
- **Unstable angina pectoris:** possible (depends on risk estimated)

Pre-flight Assessment

Contraindications to aeromedical evacuation:

- Recent MI/PCI (<3 wks), unstable angina, decompensated cardiac failure, symtomatic valvular disease, severe arrhythmias.
- Recent pneumothorax, severe hypoxia.
- Stroke <2 wks, uncontrolled seizure.
- Severe anemia (Hb < 7g/dl).
- Active/contagious respiratory infections (e.g., TB, PNA, flu) & untreated severe sinusitis.
- Pregnancy: > 36 wks or complicated.
- Others: open surgery (<2 wks), uncomplicated laparoscopic procedures or colonoscopy (< 1 day), Scuba diving (<12-24 h, < 24-28 h).

Prepare for flight

- **Bring recent ECG** and recent office visit note with summary of medical hx (prior interventions etc) for cardiac disease, PPM or ICDs.
- **Indications for in-flight oxygen:** severe cardiac failure, angina, cyanotic congenital heart disease, pulmonary hypertension.
- **Stable pulmonary disease** may require prearranged in-flight O_2
- **Asthma:** Carry β-agonist rescue inhalers & a course of steroids on the person
- **Cystic fibrosis and bronchiectasis:** May need antibiotic and secretion-clearing medications; counsel to stay well-hydrated
- **Thromboembolic Disease:** 2–4× ↑ risk w/ air travel >4 h or pregnancy. Fitted compression stockings or single dose of LMWH; ***Aspirin alone ineffective***; encourage frequent movement, adequate hydration, & ankle/knee exercises in all passengers; advise to request seats w/ more leg room.

Engage third-party providers

- The time to find third-party assistance for overseas medical emergencies is before an incident occurs.

"*Before choosing an entity, be sure they have good partners in the industry. Companies have different specialties. You need a committed partner that is well-rounded and has good relationships*"

No.	Name	Accreditation	Class	Ability	International Insurance	Ease to access from Victoria
1.	FV hospital	JCI	Private	Good	Yes	Yes
2.	Vinmec Central Park	JCI	Private	Good	Yes	Yes
3.	Xuyen A hospital	-	Private	-	Yes	Yes
4.	City International hospital	-	Private	-	Yes	-
5.	Hoan My hospital	-	Private	-	Yes	-
6.	Tam Duc hospital	-	Private	Good	N/A	Yes
7.	Hospital 115	-	Public		No	Yes
8.	HCMC Heart Institute	-	Public	Good	No	Yes
9.	University Medical Center HCMC	-	Public	Good	No	-
10.	Cho Ray Hospital	-	Public	Good	No	Yes

Take home message

For evacuation (i.e., repatriation):

Evacuation is danger itself:

In many cases must be stable and without complicating conditions.

Thank you for your attention!