

Sick or Not Sick?

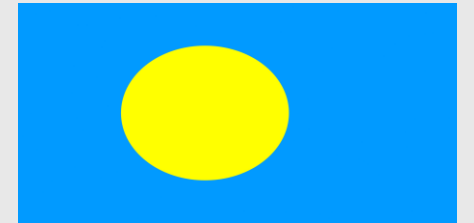
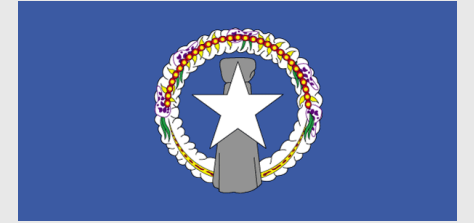
Monitoring Adverse Drug Reactions

Samantha Malley

ARNP

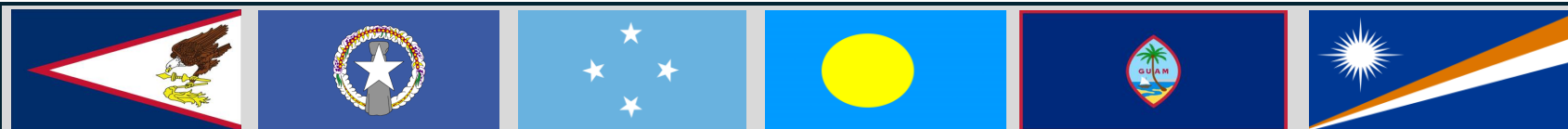
Peoples Community Health Clinic Waterloo, IA

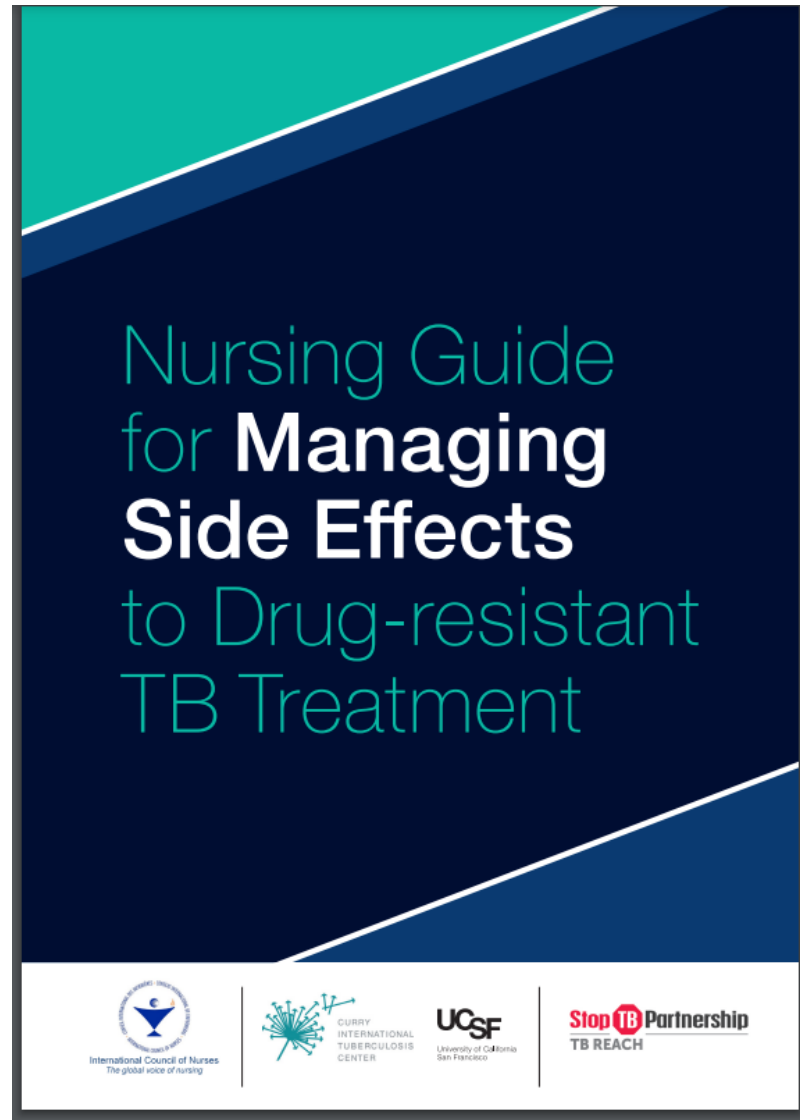
USAPI Regional TB Training 2024



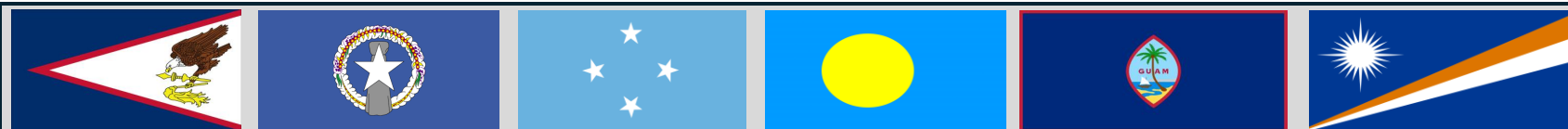
Objectives

- Identify common adverse drug reactions
- Differentiate between minor side effects and major problems
- Interventions to troubleshoot common side effects





- You'd don't have to remember everything; you just have to know how to get to the right answer
- Nursing Guide for Managing Side Effects to Drug-resistant TB Treatment
- Framework for determining severity of ADR
 - Disclaimer



Nursing Guide for Managing Side Effects Drug-resistant TB Treatment

- Side effects are organized by the body system affected
 - Gastrointestinal, neurological, cardiac, etc
- Medications strongly associated with the adverse effect are listed in bold
- Possible interventions are also listed

Hepatotoxicity

Symptoms

**Nausea, vomiting
+ PLUS**

Abdominal pain, fatigue, and loss of appetite.

Later stage symptoms may include:

Fever

Rash

Jaundice

(yellowing of the eyes and skin)

Possible Offending Medications

Anti-TB:

Inh

Pza

Rif

Rfb

Eto/Pto

Bdq

PAS

Rarely,
Emb and
Mfx

ARVs:

NVP

EFV

Pls

(TPV/r> others)

most NRTIs
(d4T, ddI, AZT)

Nursing Assessment

Same observations and questions for assessing nausea and vomiting PLUS:

- **Observe for signs of jaundice** (yellowing of the skin and whites of the eyes)
- Use pain assessment approach when patient reports pain (see Appendix A)

Ask the patient:

- Do you drink alcohol?
If yes, how much, how often and when was your last drink?

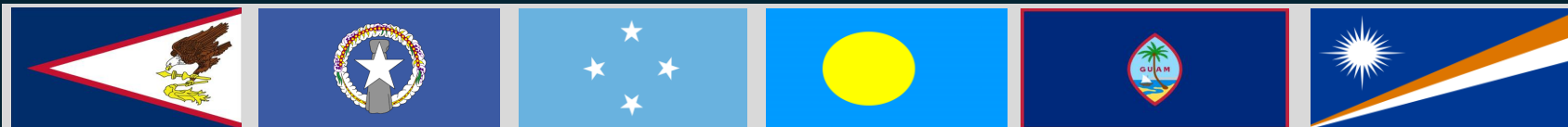
Check:

- Latest liver function test (LFT), total bilirubin, serum albumin and electrolytes
- Viral hepatitis panel results
- Urine and stool color
- Patient's nutritional status (weight and BMI) and nutritional intake



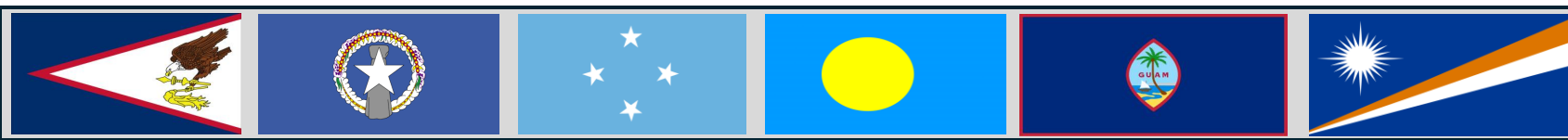
Sick vs. Not Sick

- Who are we talking about?
 - more ADRs with advanced age
- What are their risks for ADR?
- Do they have symptoms affecting multiple body systems?
 - more concerning
- Are they having pain?
 - more concerning
- Do these symptoms significantly alter or change their day-to-day plans?
- Have they had similar symptoms in the past? Is this their baseline or a symptom of a chronic condition?
 - less likely to be from TB medications
- Any additional pertinent information



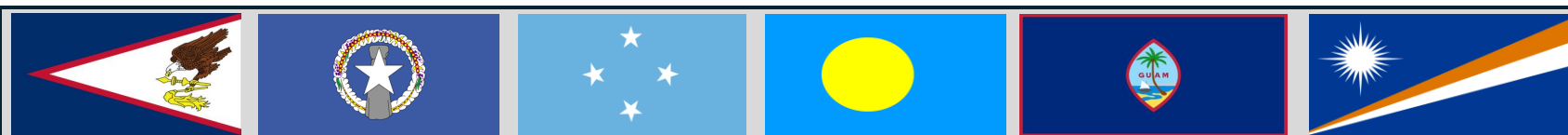
Case #1 Sick or not sick?

- 26-year-old male patient currently on BPaL for MDR pulmonary TB. He has completed 12 weeks of anti-TB treatment without issue. He is active and works at a grocery store and enjoys playing soccer with his friends.
- You're doing DOT on a Monday morning. You notice he seems to be walking around his home slowly. He is holding his hand over his stomach when he talks to you. He says he thinks he ate food that was bad and has been vomiting all weekend.



Case #1 Sick or not sick?

- After taking his medications, he begins profusely vomiting and can barely stand because his stomach hurts so bad. He tells you he hasn't been able to keep any solids down the entire weekend, and barely any fluids. He noticed his urine is darker than it has been.
- He was supposed to work over the weekend, but had to miss work due to illness. He said he's going to take a nap after you leave and hopes to be at work tomorrow morning.
- After further discussion, he admits that he has been celebrating a friend's birthday and consumed large amounts of alcohol most days of the last week.
- Sick? Not Sick?
 - Why?



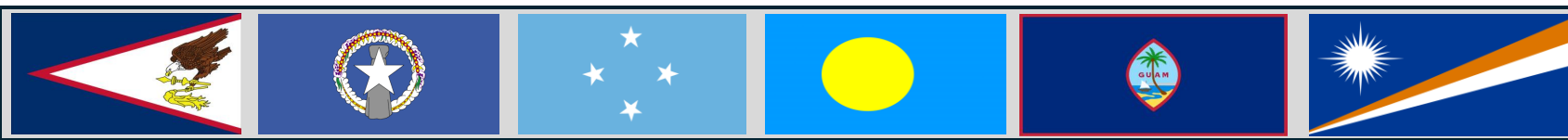
Case #1 Sick

Question	Answer
Who	
Risk factors	
Symptoms in multiple body systems	
Is there pain	
Symptom impact on the patient	
Similar symptoms in the past	
Additional information	



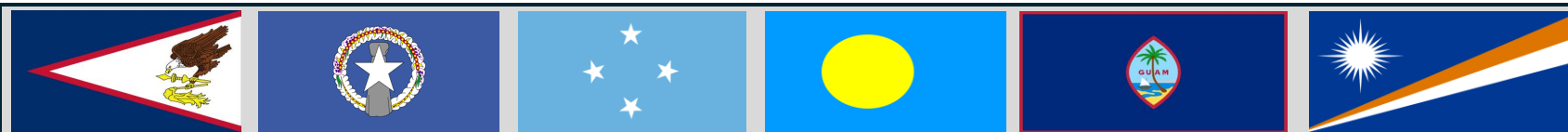
Hepatotoxicity vs. GI upset

- What are your next steps?
- What changes to the scenario might have made the patient not sick?
 - Nausea without vomiting
 - No pain
 - Drinking and urinating normally
 - No changes in day-to-day activities
 - Intermittent symptoms
- What can we do about minor GI upset?



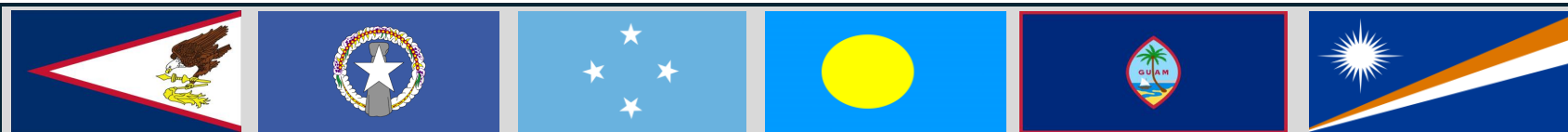
Case #2 Sick or not sick?

- 38-year-old woman receiving BPaLM for the treatment of drug-resistant TB. She has completed 10 days of ATT.
- She has a past medical history significant for hypertension, but it is well controlled with her current medications.
- You present for DOT and she tells you the TB medicine is making her feel worse. When you ask why, she has a hard time giving specifics but says that her entire body hurts and she has a hard time moving around.



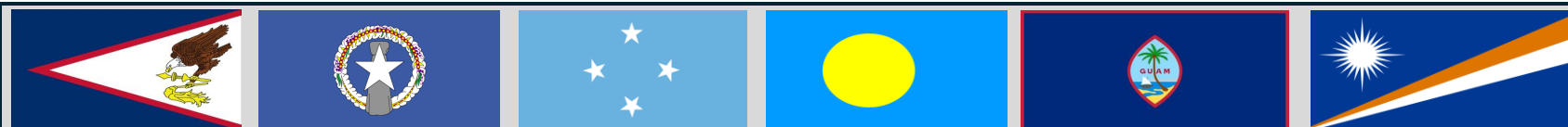
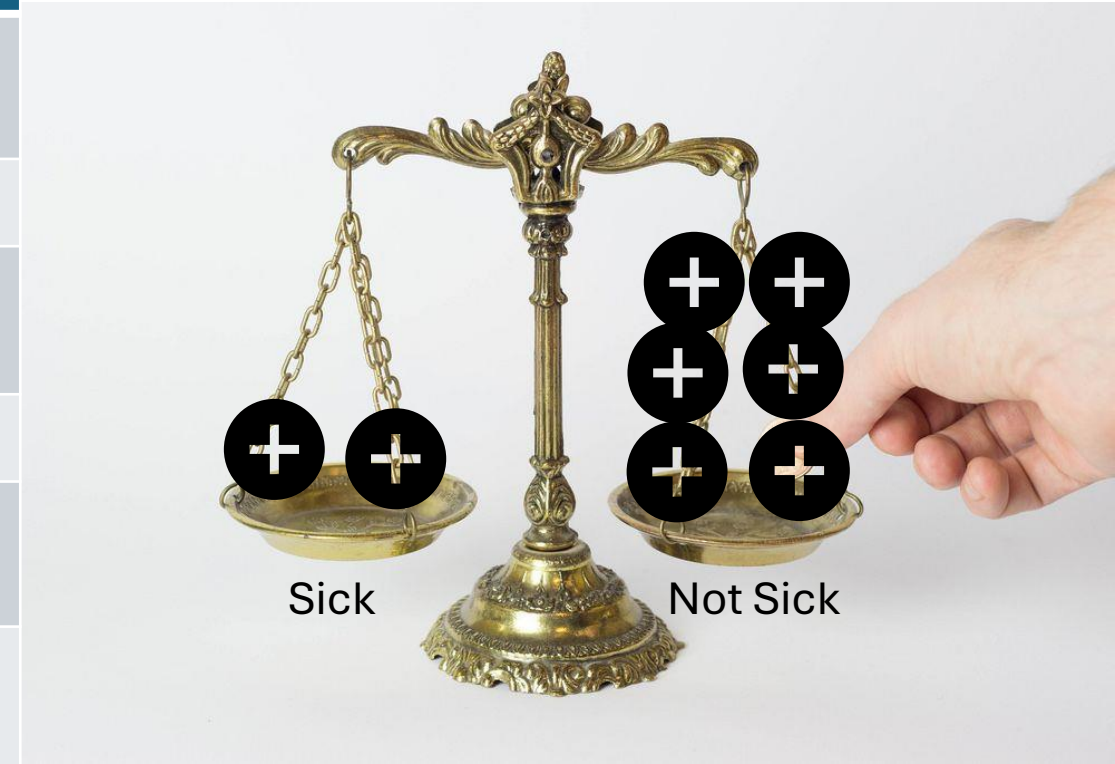
Case #2 Sick or not sick?

- She called in to work over the weekend and seems to have low energy compared to when you first met her. She says “I just don’t feel good.”
- Which drugs could cause musculoskeletal complaints?



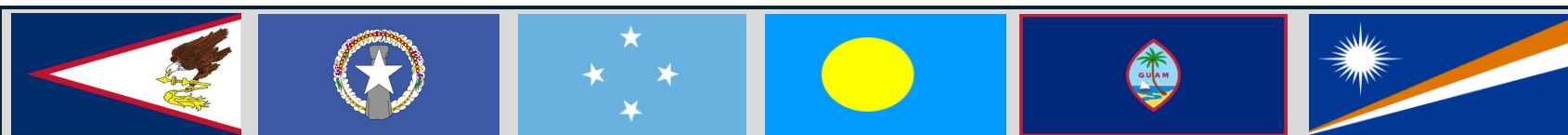
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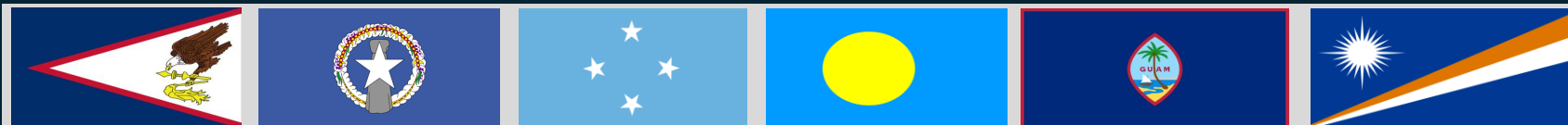
Fatigue and Myalgias

- Pain is a sign that something is occurring in the body
 - In this situation it is a good thing (immune system and medicines working to fight TB)
- Common in the beginning of treatment especially if the patient has severe disease
- Make sure patients are drinking enough water and are getting enough nutrients
- Provide reassurance
- Consider checking electrolytes



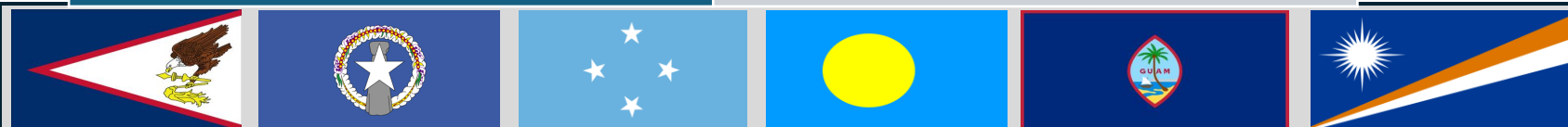
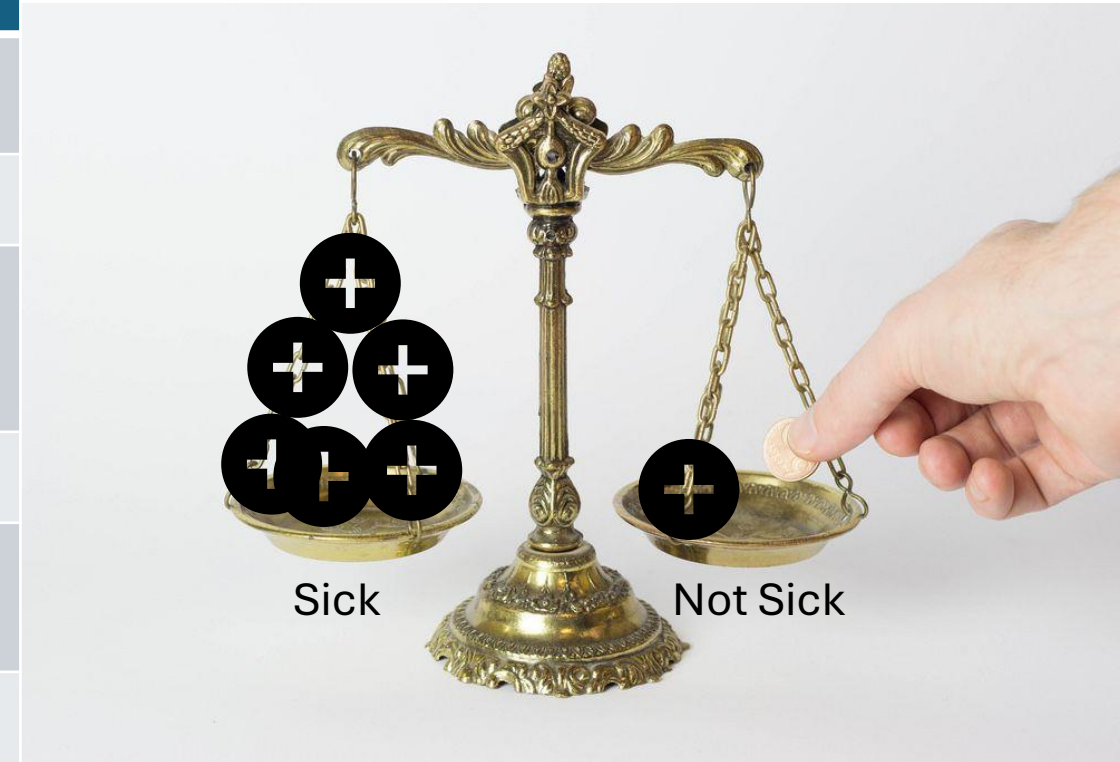
Case #2b Sick or not sick?

- 68-year-old woman receiving BPaLM for the treatment of disseminated drug resistant TB. She has completed 10 days of ATT.
- She has a past medical history significant for type 2 diabetes. Her last A1c was 10.3%. She takes metformin.
- You present for DOT and she tells you the TB medicine is making her feel worse. When you ask why, she has a lot of calf and ankle pain. She shows you the back of her ankles and they feel arm and are starting to look red and swollen.
- She called in to work over the weekend because the pain seems to be getting worse.



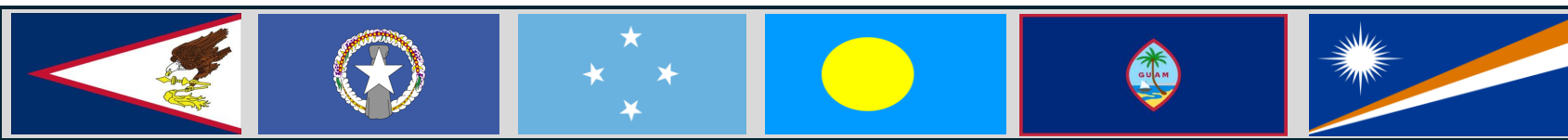
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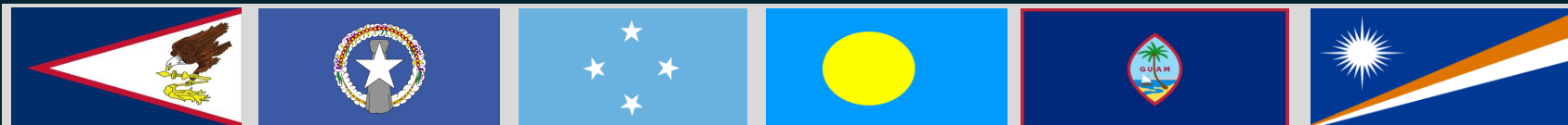
What changed?

- Age changed: 38 vs 68
- Past medical history changed: hypertension vs uncontrolled diabetes
- History changed: very vague symptoms vs symptom progression
- Pain changed: localized
- Exam changed: visible localized changes consistent with the history provided for a severe adverse reaction



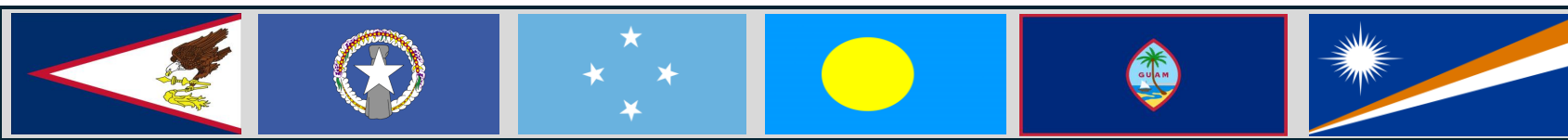
Case #2b Sick

- Moxifloxacin is our culprit
- Tendon rupture is rare, but serious
- Older individuals with diabetes are at highest risk
- Generally going to occur within the first month
- Tendinitis can be identified before rupture
- Don't do activities that are going to stress the tendon



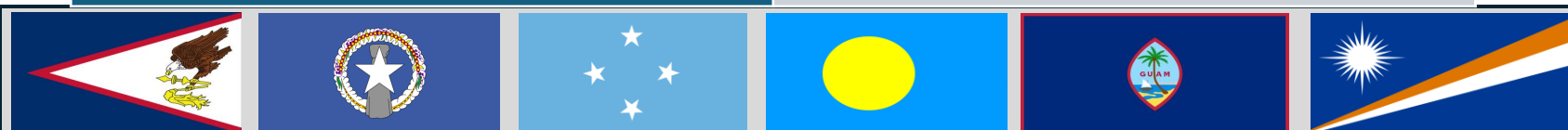
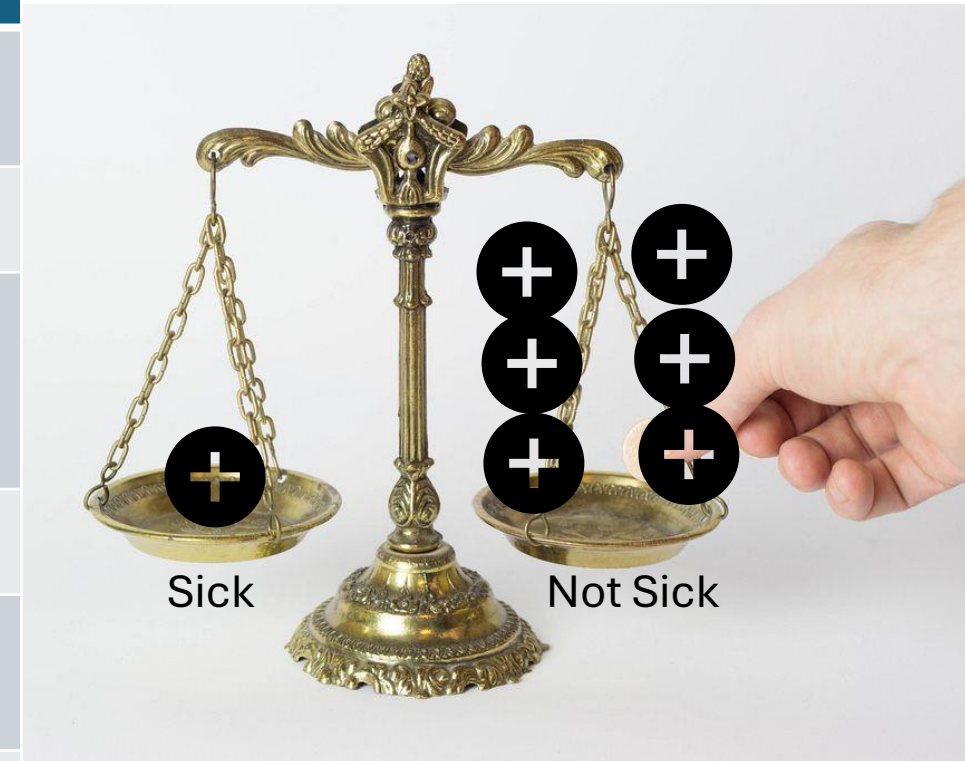
Case #3 Sick or not sick?

- 44-year-old male on BPaLM for MDR pulmonary TB. He has been adherent to treatment without any issues for 3 months.
- Prior to TB treatment the patient had no major medical problems and does not currently take any medicines outside of ATT.
- You've been asked to do an EKG on this patient to monitor for QTc prolongation. Their baseline QTc was 445 ms. Today, their QTc is 503 ms.
- The patient denies any palpitations, chest pain, shortness of breath, fainting.



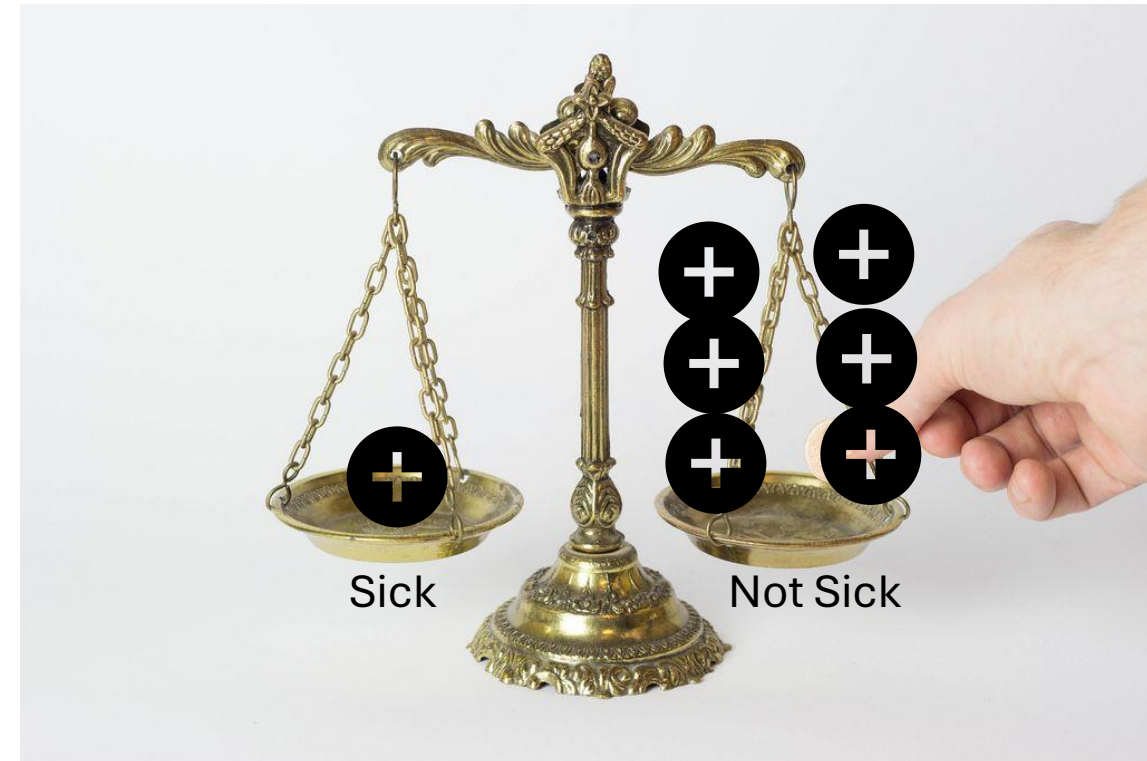
Case #3 Sick or not Sick

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Case #3 Not Sick

- What should we do next?
 - Evaluate for electrolyte changes
 - Counsel on signs and symptoms that should be reported
 - Discuss the additive effect of QTc prolonging medications

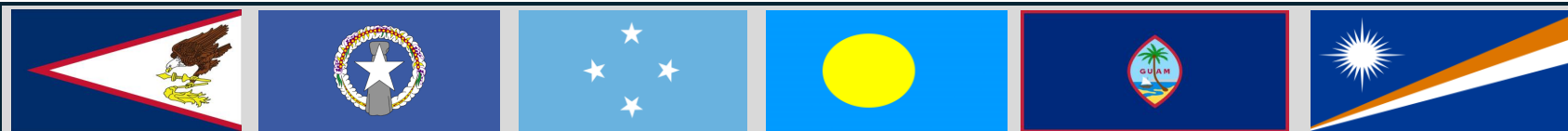


Case #4 Sick or not sick?

- 19-year-old male receiving RIPE/HRZE for the treatment of disseminated pan susceptible TB. He has severe cavitary pulmonary disease. He has completed 10 days of ATT.
- He has no past medical problems but when you present for DOT, he reports a rash that started yesterday. He says it itches a bit but isn't very bothersome.
- It is present primarily on the trunk but also on the extremities to a lesser degree, get less prominent distally. The rash is flat and there are no areas of open skin. His face looks normal. There are no changes in his mouth or on his lips. His temperature is 100° F (37.7°C).

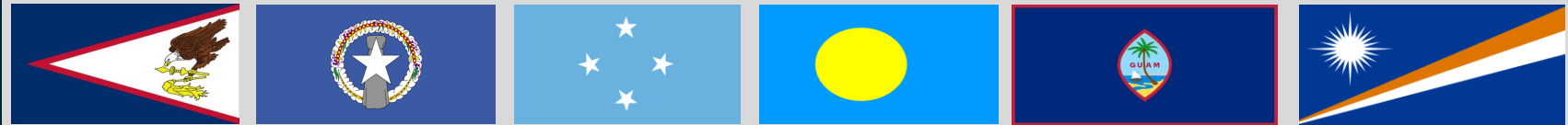
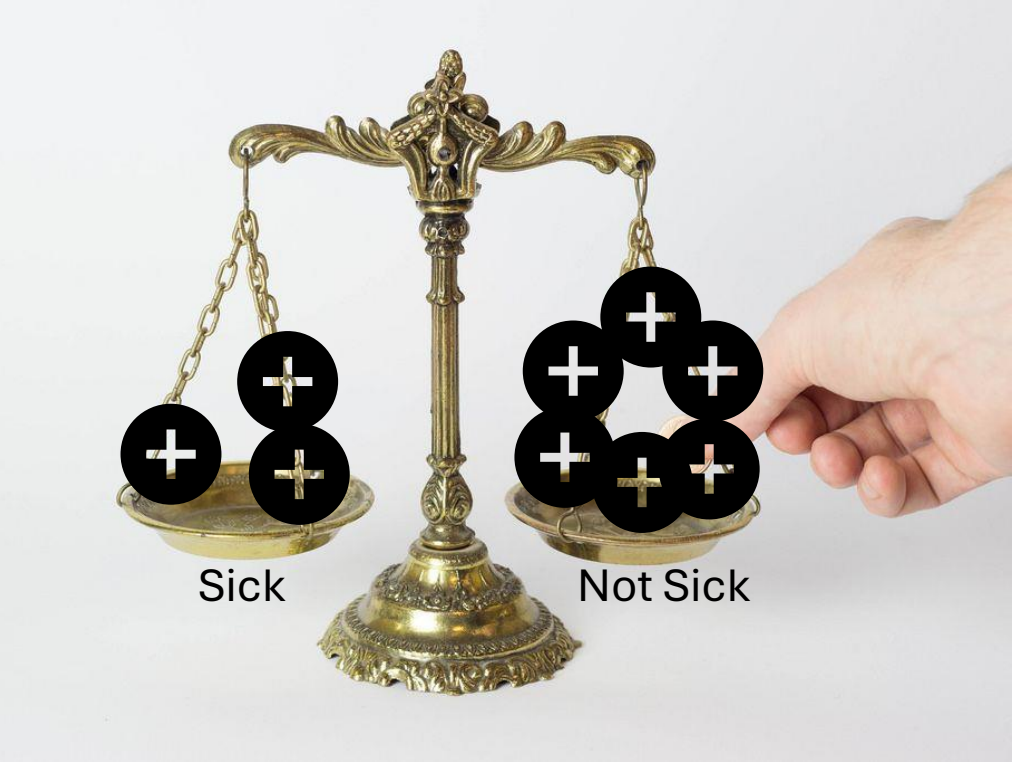


<https://plasticsurgerykey.com/morbilliform-eruptions/>



Case #4 Sick or not Sick

Question	Answer
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ARE YOU FLIRTING



WITH ME?

memegenerator.net

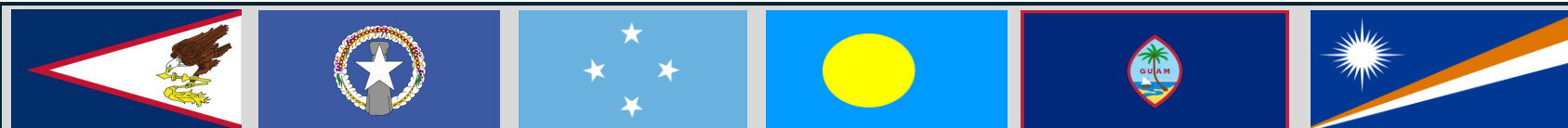


Case #4 Sick or not sick?

- You call the clinician with the TB department, and they tell you to give the patient their medications with an antihistamine and follow up closely tomorrow.
- You return for DOT the next day and he now has moderate swelling of his eyes and lips. His temperature is now 101.1° F (38.4°C).
- He said that yesterday after DOT he started having joint pain and a sore throat, and today he feels very fatigued. Instead of being itchy, he says some of his skin is “burning.”
- Today his rash looks like his skin is starting to peel in certain areas and his rash looks “angry.” He’s has peeling and ulceration on his lips.

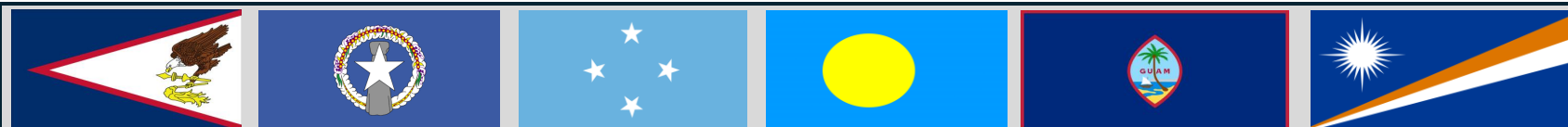
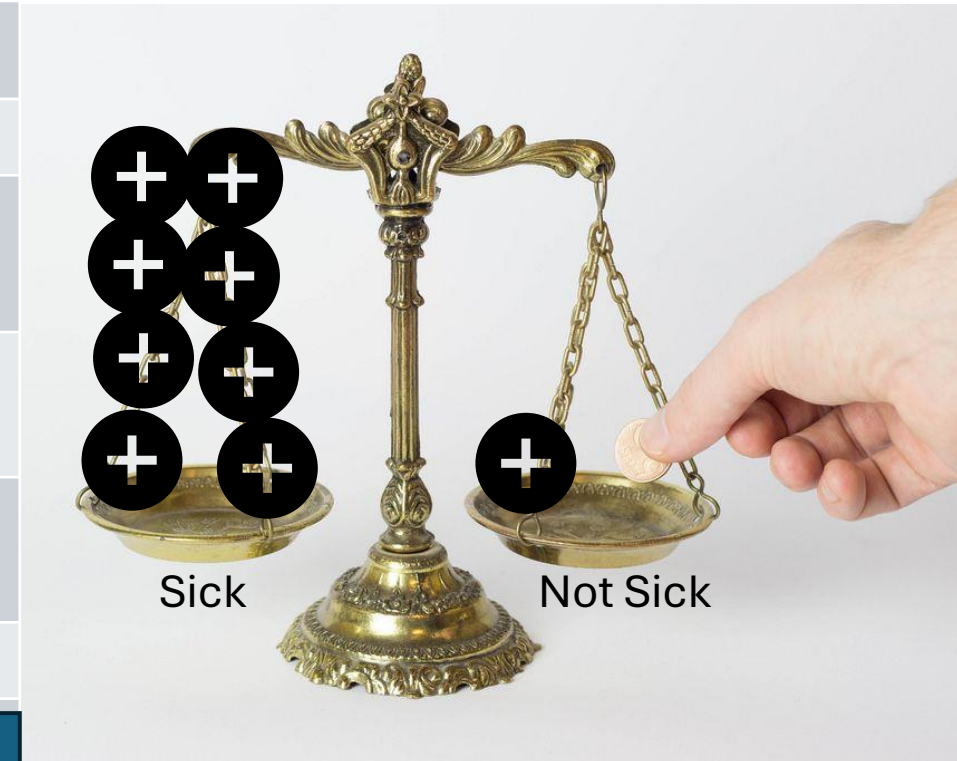


<https://www.nhs.uk/conditions/stevens-johnson-syndrome/>



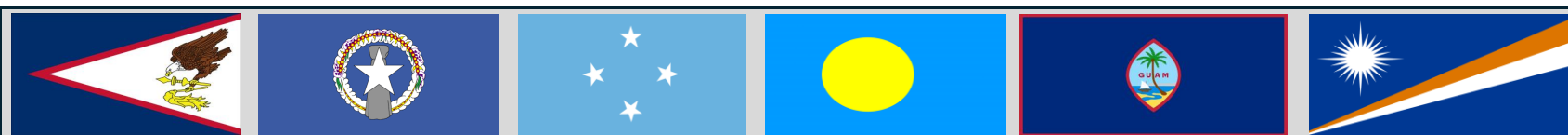
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Last thoughts and summary

- Patients don't always do what I say. There will be times this doesn't quite work.
- You can always put a token or two in the sick pile if you're worried.
- Not sick doesn't mean do nothing.
 - Increase monitoring if your sick pile is getting big.
- Use your resources.
- When in doubt, ask for help.



Thank you!

