

Medication Management for NTM Lung Disease

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Patient Symposium/NTMIR


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Things I would want to know if I were a patient.....

- Why me?
 - Why are there so many antibiotics?
 - What are the most important side effects of these medicines?
 - Are these medicines going to hurt or help me?
 - What would happen if I skipped a few days?
 - What would happen if I skipped a few meds?
 - What would happen if I quit all of this?
 - What are the most important side effects of these medicines?
 - Are these medicines going to hurt or help me?
- 



I went to the
doctor for my
cough.....





Not all NTM are treated the same.....

MAC (*Mycobacterium avium* complex)

Majority of patients treated with oral drugs

IV or inhaled drugs are given:

- A) Severe disease
- B) Cavities are present
- C) Failure to clear sputum on oral drugs

Mycobacterium abscessus

combination of oral and intravenous drugs most common; inhaled drugs are often used for long term therapy with orals

Most Common Meds

MAC (*Mycobacterium avium* complex)

Azithromycin (clarithromycin) (MOST IMPORTANT DRUG)

Ethambutol

Rifampin/rifabutin

Clofazimine

Inhaled amikacin (arikayce)

Intravenous amikacin (streptomycin shot)

Most Common Meds

Mycobacterium abscessus

ORAL:

Azithromycin

Linezolid (tedizolid)

Clofazimine

Inhaled amikacin (arikayce)

Intravenous amikacin (streptomycin shot)

Intravenous imipenem (or ceftazidime)

Intravenous tigecycline (omadacycline)

Azithromycin (Clarithromycin)

Take with or without food

Do not take with antacids
(may lower effectiveness)



Azithromycin (Clarithromycin)

Side effects

- GI upset
- rash
- changes in heart conduction
- long term hearing loss



Azithromycin (Clarithromycin)

Monitor:

EKG (if needed)

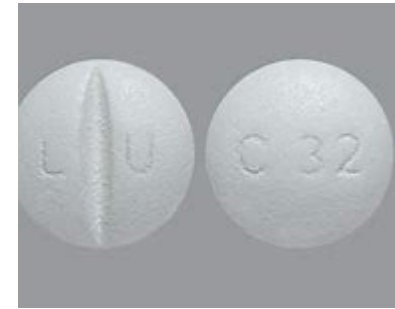
Hearing tests (if needed)



Ethambutol

Take with or without food

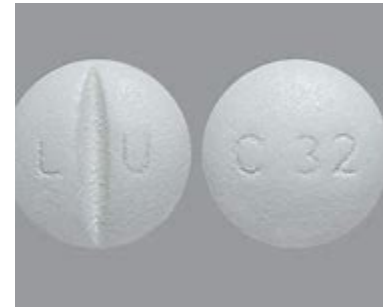
Do not take with aluminum
containing antacids



Ethambutol

Side effects

- eye problems
- rash
- neuropathy
- GI upset



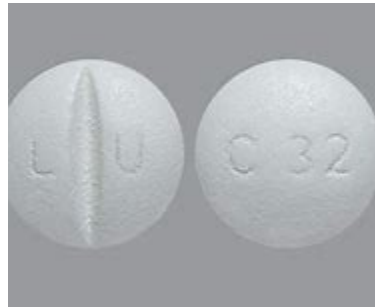


Ethambutol

- Baseline visual acuity (Snellen chart) testing of color vision discrimination (Ishihara tests)
- Ophthalmology (Eye) evaluation
- **PATIENT EDUCATION!**

Ethambutol

Don't forget to remind your doctor if you have gained or lost weight over time!



Rifampin/Rifabutin

Take on an empty stomach

May Interact With Other Medications
(ex. thyroid medications
oral contraceptives)

Monitor:

Liver functions

Blood counts

Avoid:

Alcohol



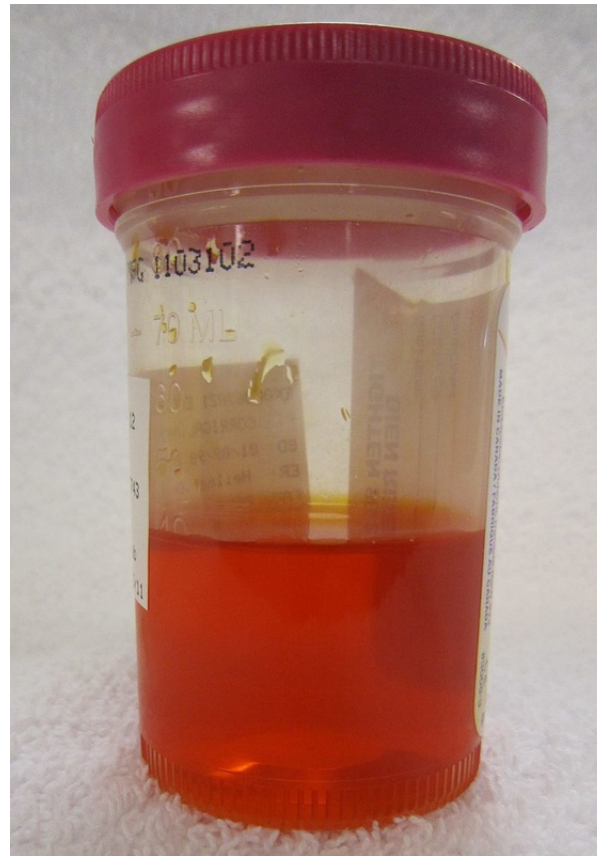
Rifampin/Rifabutin

Side Effects

- Persistent nausea/vomiting
- Stomach/abdominal pain
- Orange/red urine/secretions
- Yellowing eyes/skin
- Mental/mood changes
- Unusual tiredness
- Flu like symptoms
- Fever



Rifampin/Rifabutin



Clofazimine

Your doctor has to order this medication through a special process.
You cannot get this in a pharmacy.

Side effects (Most Common Only)

- bronzing of the skin
- constipation
- diarrhea
- heartburn
- indigestion
- loss of appetite
- nausea
- pain or discomfort in the chest, upper stomach, or throat
- stomach pain
- vomiting




Clofazimine

Clofazimine



Tips For Oral Meds

- Adjust the schedule
 - Ask about intermittent dosing
 - Start meds one at a time
 - Split up the pills
 - Take probiotics
 - Avoid too many milk products
- 

Other Ways to Deliver Antibiotics Inhaled



Really,
it's inhaled?



Inhaled amikacin (arikayce)



Side Effects Are Common With Inhaled Antibiotics

MOST COMMON:

Dysphonia

Cough

Bronchospasm

Coughing up blood

Hearing changes (hearing loss, ringing in the ears)

Flare ups of lung disease


Allergic reactions



I've lost my
voice.

Can you help me?

Tips For Inhaled Antibiotics

- Hot tea, cough drops
 - Ask about intermittent dosing
 - Albuterol inhaler prior to inhaled antibiotic?
 - Call your doctor to discuss issues you are having
 - Formulation change?
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Definition of Patience

patience

['pāSHəns]

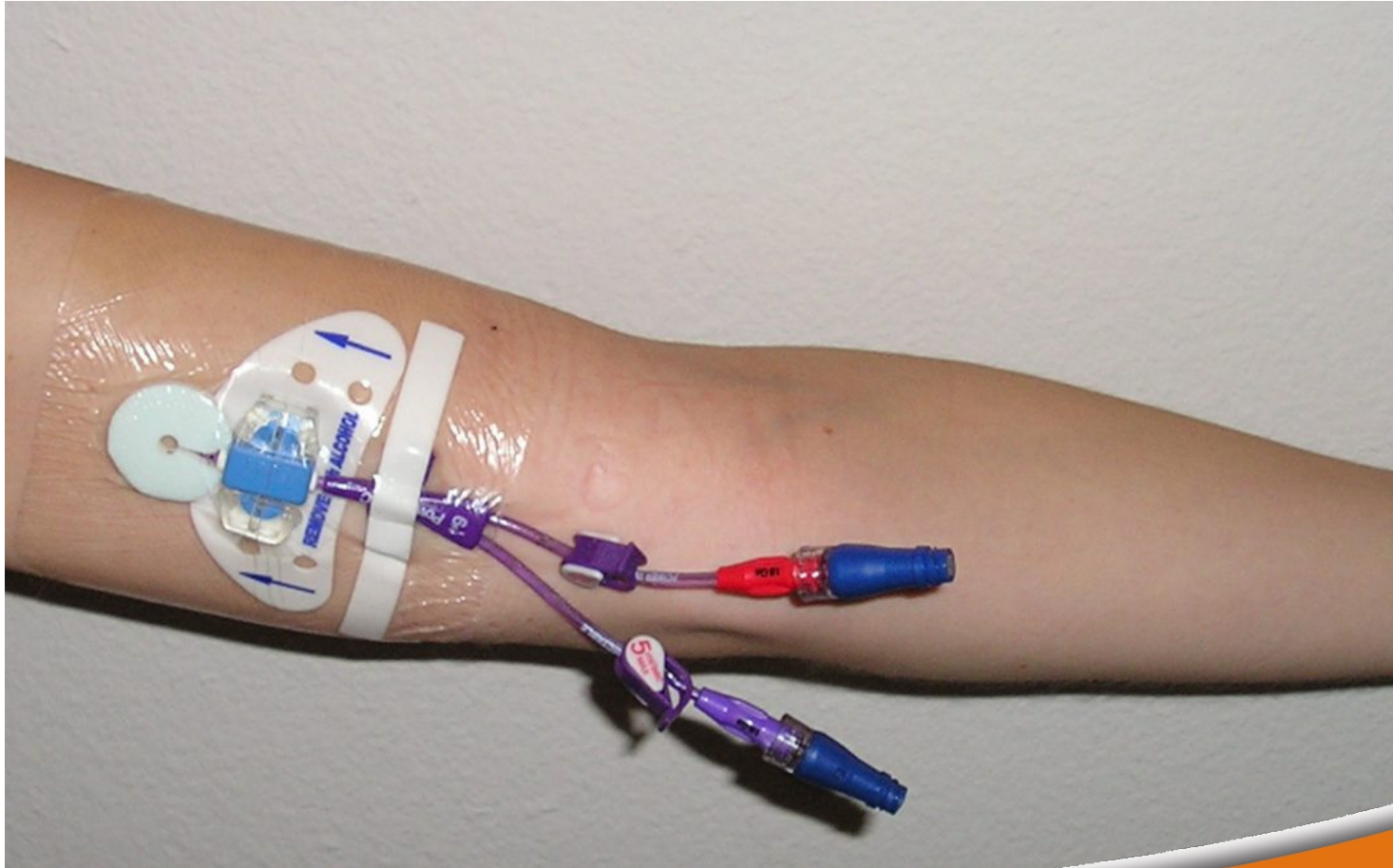
NOUN

patience (noun)

the capacity to accept or tolerate delay, trouble, or suffering without getting angry or upset.

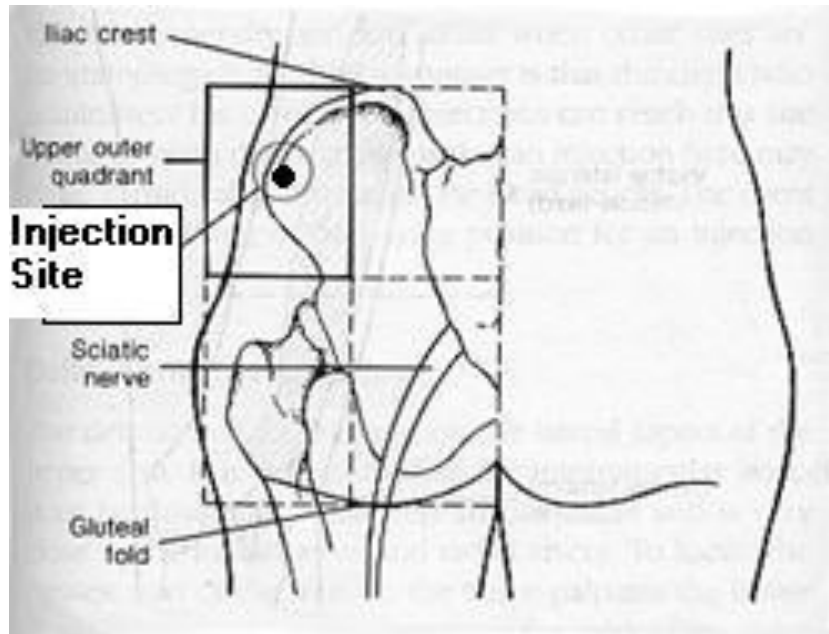
- synonyms:
- [forbearance](#) · [tolerance](#) · [restraint](#) · [self-restraint](#) · [resignation](#)

Other Ways to Deliver Antibiotics Intravenous



Other Ways to Deliver Antibiotics

Intramuscular



MAC Intravenous Antibiotics

IV amikacin (IM streptomycin)

Side Effects:

Kidney problems

Hearing problems

Labs:

Often weekly to monitor kidney and blood levels of antibiotic

Routine: hearing tests

M. Abscessus oral meds

Azithromycin – We went over

Clofazimine – We went over

Linezolid (Tedizolid is another medication in the same class)

Other medications you may hear about:

Omadacycline

M. Abscessus IV meds

IV amikacin (we discussed)

IV imipenem (or cefoxitin)

IV tigecycline (other formulations like eravacycline, omadacycline)

Common Questions

Why are there so many antibiotics?

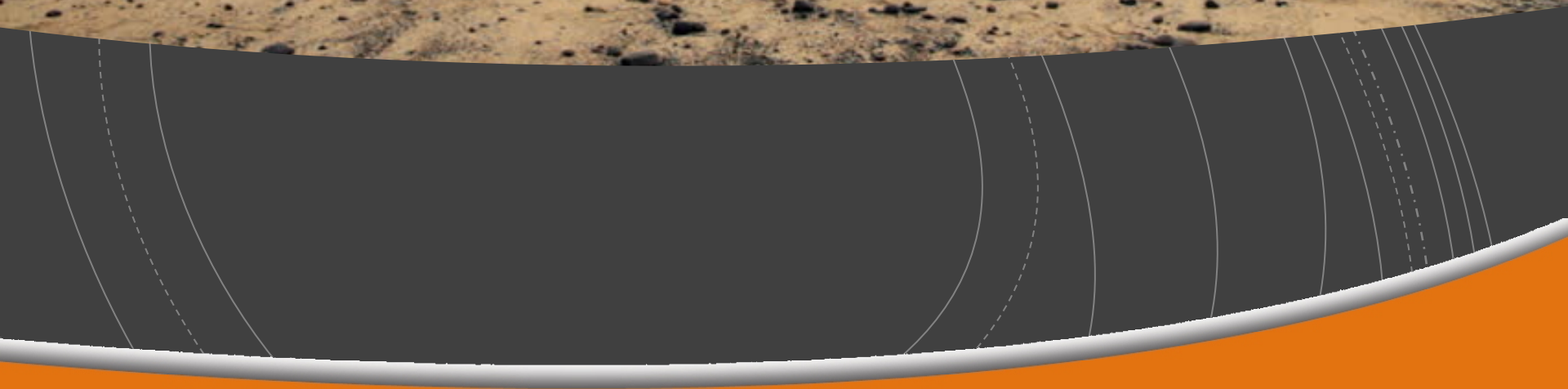
What would happen if skipped a few days?

What would happen if I skipped a few meds?

What would happen if I quit all of this?

What happens if I forget to take a dose?







Questions???