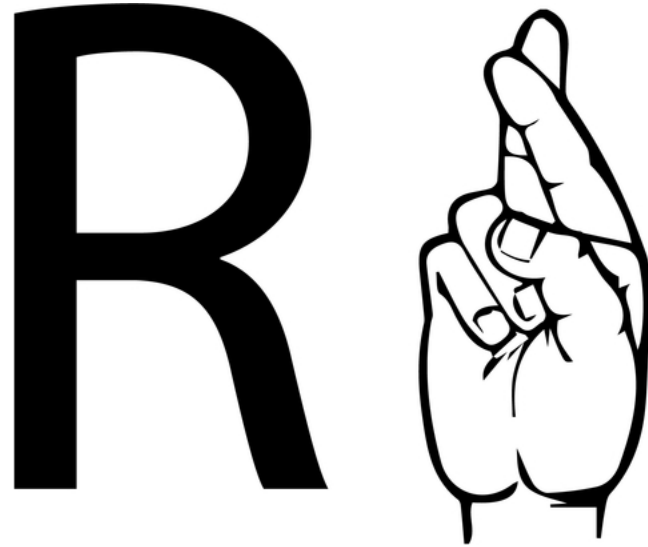


Nutrition for Bronchiectasis & NTM-LD: **Fight Back with Food**

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**“It’s easier to resist at the beginning
than at the end.”**

-- Leonardo da Vinci (1452-1519)



OVERVIEW: NUTRITION and NTM

- **Rethink Food:** Food is *therapy* - Fight back with Food
- **Bird's-eye View:** Cycle of Infection & Malnutrition
- **How & What Should I Eat?**
- **What About Reflux?**

ReTHINKING FOOD

- Nutrition *is a component of your therapy. Fortify with food.*
- If “MAC is eating your lunch,” then...
- Eating well helps you *fight infection, have strength, & maintain a healthy weight.*



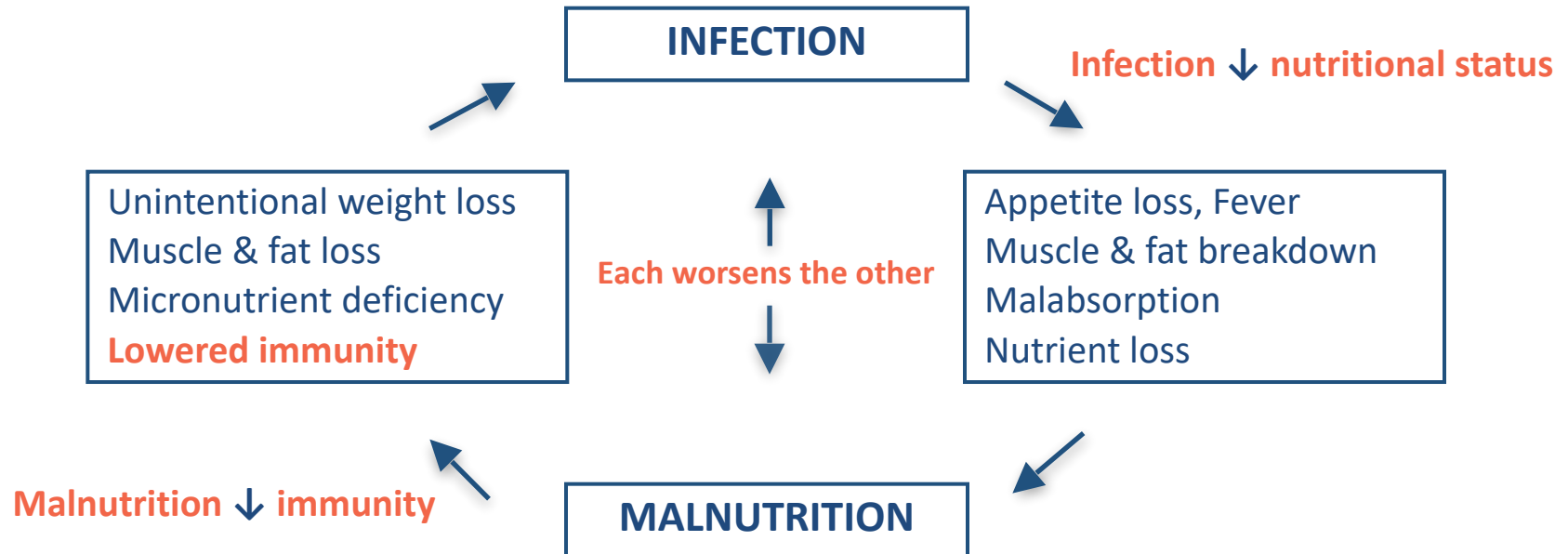
ReTHINKING FOOD

- There is no single predictor of who will develop progressive disease, however -
- Individuals with NTM and low body mass index *have higher risk of disease progression* & may be less likely to respond to therapy.
- **Be part of the resistance; *fight back with food.***

ReTHINKING FOOD

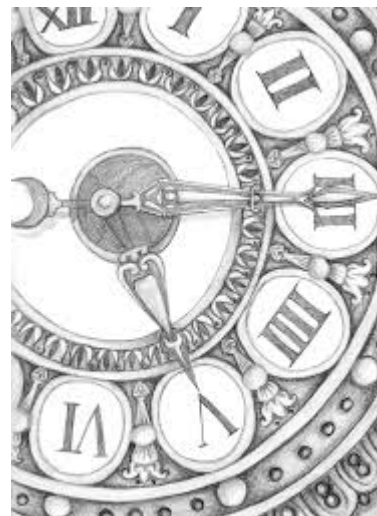
- **Malnutrition** *lowers immunity & impairs healing.*
- **Prealbumin ≥ 20 (Normal: 20-40)** is preferred for surgical candidates.
- **Gastrostomy feeding tube (overnight x 2 months)** prior to surgery *may be needed to improve nutritional status.*

BIRD'S-EYE VIEW: CYCLE OF INFECTION & MALNUTRITION



HOW SHOULD I EAT? **Purposefully**

- **Treat food like medicine.** “Food is a drug.”
 - take food by the clock, on a schedule: do not miss a “dose.”
 - don’t wait until you are hungry to eat.
- Make eating a **practice**, a **program**, and a **ritual**.
- If you don’t eat well, you waste away.



HOW SHOULD I EAT? **Purposefully**

- **“Campaign for calories.”**
 - Start a **“feeding frenzy.”**
 - “Swing for the fences.”

- **“Unlearn prior prohibitions about fat. Fat is the key.”**
 - “Eliminate diet and low-fat items.”

HOW SHOULD I EAT? **Purposefully**

- **Rely on regular eating pattern: 3 meals, 2 snacks.**
 - **START** eating breakfast.
 - **ADD** mid-morning & mid-afternoon snacks.
 - **STOP** skipping meals.

HOW SHOULD I EAT? **Purposefully**

- **Add and/or concentrate calories & protein in daily diet:**
 - ↑ intake by 250 - 500 calories a day to gain ½ - 1 lb per week
 - may need 2250 - 2500+ calories a day to gain weight
 - may need 75 - 150+ grams of protein a day
 - 30 grams high-quality protein at each meal may ↑ muscle mass

WHAT SHOULD I EAT?

HIGH-CALORIE, HIGH-PROTEIN, NUTRIENT-DENSE FOODS
to **AVOID** weight loss, **MINIMIZE** muscle and fat losses, **REPLETE** nutrients
STRENGTHEN the **IMMUNE SYSTEM** and **SPEED RECOVERY**

NUTRITION SUPPLEMENTATION

- **Daily multivitamin (MVI) is reasonable.**
 - choose age-appropriate MVI that is iron-free.
 - choose 3rd-party certified supplement (i.e., ConsumerLab, NSF, USP).
 - avoid megadoses (>500%) of minerals and vitamins.
- **High-dose and/or daily vitamin D may be required.**
 - ergocalciferol (50,000 IU D2 weekly) to treat deficiency.
 - 2000 – 4000 IU D3 thereafter as daily maintenance dose.
- **Probiotics are recommended on antibiotics. Take with food.**

EAT THIS for breakfast



OR THIS!



EAT THIS!



OR THIS!



EAT THIS!



OR THIS!



SNACK ON:



OR THIS!



OR THIS!



OR THIS!



OR THIS!



OR THIS!



OR THIS!



EAT THIS for lunch or dinner



OR THIS!



OR THIS!



OR THIS!



OR THIS



OR THIS!



AND...



WHAT ABOUT REFLUX?

- **Reflux** - the condition
 - backflow of fluid or food from the esophagus or stomach
 - a significant amount of reflux *may occur during the day and night*
 - PPIs and H2 blocker medications do *not* reduce reflux events

WHAT ABOUT REFLUX?

- **Reflux - the risk**
 - concern for reflux that *comes above the upper esophageal sphincter*
 - *may increase your risk for aspiration*, or entry of the fluid or food into the lungs,
 - which may, in turn, increase your risk for the development or exacerbation of bronchiectasis and/or NTM-LD
- **Reflux precautions may protect your lungs**

What *reduces* REFLUX EVENTS?

- Lose weight (if overweight); avoid overeating
- Elevate head of bed
- Sleep on left side (versus right side)
- Eat earlier in the evening

What *can I drink* with reflux?

- caffeine-free coffee substitutes
- caffeine-free herbal teas
- low-fat milk *almond, cow, soy and other plant-based milks*
- non-citrus juices *apple, blueberry, cherry, grape, pomegranate, etc.*
- water *plain, flavored (non-citrus), infused with berries, cucumbers, etc.*



What *should I avoid drinking* with reflux?

- alcohol
- caffeinated & decaffeinated coffee and tea
- carbonated beverages *beer, champagne, soda, sparkling water, etc.*
- chocolate and mint flavors
- citrus juices *grapefruit, lemon, lime, orange, pineapple, tomato*
- energy drinks
- sodas
- vinegar

What *can I eat* with reflux?

- lean proteins
 - *beans, chicken, eggs, fish, meat, nuts, seafood, soy, turkey*
 - *dairy - cheese, milk, yogurt*
- grains *barley, oatmeal, quinoa, rice, whole-wheat*
- non-citrus fruits *apple, banana, berries, melon, peaches, etc.*
- vegetables *bell pepper, broccoli, carrot, cucumber, onion, etc.*
- herbs and spices *basil, cilantro, oregano, rosemary, thyme, etc.*



What *should I avoid eating* with reflux?

- chocolate
- fatty meats *bacon, bologna, hot dogs, pepperoni, sausage, etc.*
- full-fat dairy *cheese, milk, yogurt*
- fried foods *chips, French fries, deep-fried chicken/seafood, etc.*
- high-fat sweets *brownies, cakes, cookies, donuts, etc.*
- hot peppers *black, cayenne, jalapeno, etc.*
- ketchup & mustard
- mint candy, gum, etc.
- spicy foods
- tomatoes and tomato sauce
- vinegar

Additional *diet recommendations* for reflux

- Avoid overeating; eat small, frequent meals.
- Limit fluids to 6 fl oz per hour during the day, and drink fluids with grains/starches that absorb liquids.

SUMMARY: NUTRITION and NTM

- Eat to **fight infection** & **reduce your risk of disease progression**.
- Infection predisposes to malnutrition; **fight back with food** to increase immunity & resist infection. **Restore and/or maintain a healthy weight**.
- **Eat well**: choose nutrient-dense, regular, balanced meals and snacks, including large portions of chicken/fish/meat (4 oz), eggs (2 each), dairy (1 cup), legumes (1+ cup), nuts (1/2+ cup), nut butters (2+ Tbsp), healthful fats, grains/starches, vegetables and fruits.
- **Reduce reflux events** with diet & lifestyle precautions.

**“You will never have a greater or lesser dominion
than that over yourself.”**

-- Leonardo da Vinci (1452-1519)

Eat well. Experience well.