2024

Sarcoidosis
From a Rheumatology Perspective

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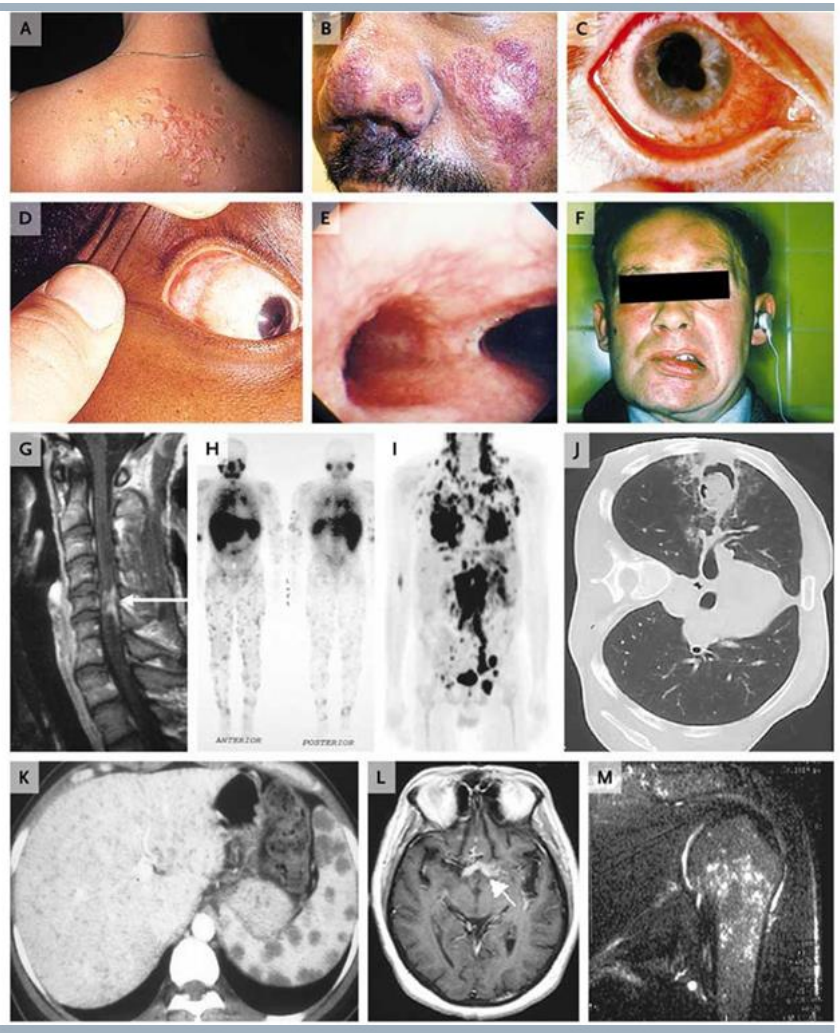
AHN

Learning Objectives

- Identify extrapulmonary sarcoidosis
- Determine which patients with sarcoidosis should receive pharmacologic treatment
- Manage initial sarcoidosis treatment, especially with methotrexate

Value of Screening for Extrapulmonary Sarcoidosis

- Understand a patient's disease better
- Get patients to appropriate subspecialists
- Predict prognosis
  - ACCESS study: <25% of patients will develop new organ involvement after initial diagnosis
- Decide on treatment



Screening for Extrapulmonary Sarcoidosis

Symptoms

Labs

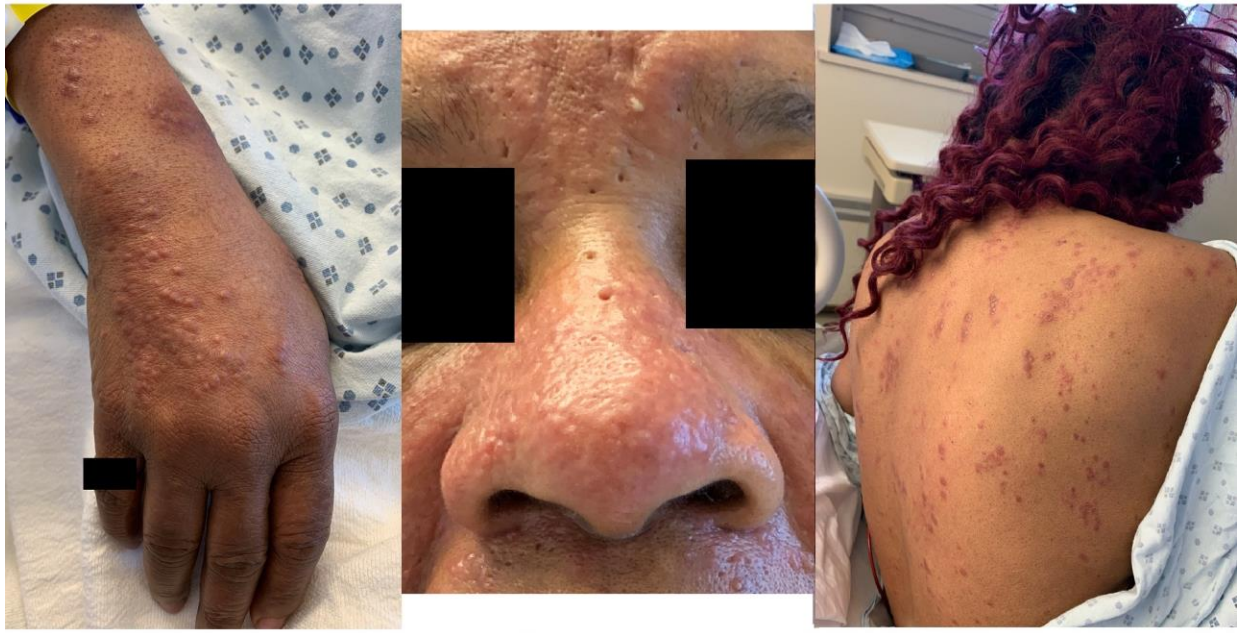
Referrals

Other testing

- Ocular
- Neurologic
- Cardiac
- Endocrine
- Hepatic
- Hematologic
- Renal
- Cutaneous
- Musculoskeletal

Screening for Extrapulmonary Sarcoidosis

- Cutaneous
  - Erythema nodosum
  - Lupus pernio
  - Papules or plaques (particularly within tattoos)

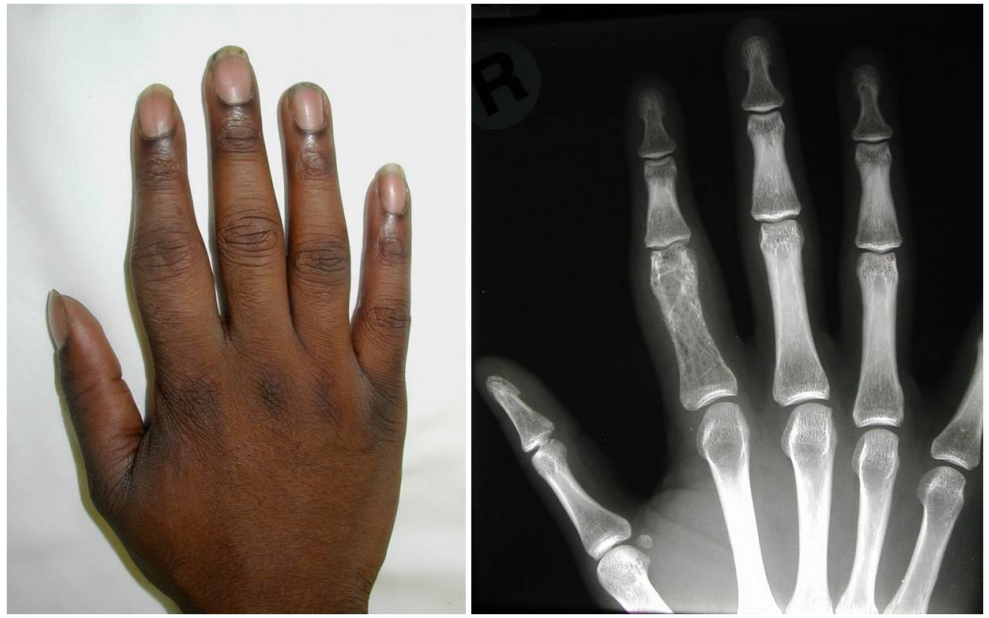


Symptoms

Screening for Extrapulmonary Sarcoidosis

- Musculoskeletal
  - Acute ankle swelling (in particular with Lofgren's syndrome)
  - Chronic oligoarthritis or dactylitis
  - "Moth-eaten," lytic, or sclerotic bone lesions

- To Do:
  - Ask about new pain or swelling of joints or bones
  - Low threshold to XR areas of concern and/or refer to Rheum



Symptoms

Screening for Extrapulmonary Sarcoidosis

- Neurologic
  - Cranial neuropathies (Bell's palsy or optic nerve)
  - Leptomeningitis
  - Brain parenchymal disease
  - Peripheral neuropathy
  - Pituitary

To Do:

- Ask about headache or cognitive, motor, or sensory disturbances
- Perform a brief neurologic exam
- Low threshold for brain MRI

Symptoms

Screening for Extrapulmonary Sarcoidosis

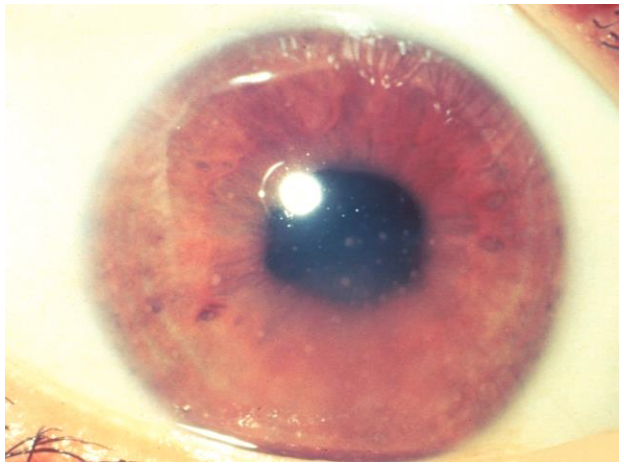
- Hepatic
  - Elevated LFTs (esp alk phos)
  - Hepatosplenomegaly
  - Minority: abdominal pain, jaundice, pruritic, cirrhosis
- Renal
  - Interstitial nephritis
  - Nephrocalcinosis
  - Acute renal failure 2/2 hypercalcemia
- Hematologic
  - Bone marrow or splenic involvement
  - Lymphopenia
  - Anemia
  - Thrombocytopenia

To do: CBC, CMP at diagnosis and annually

Labs

Screening for Extrapulmonary Sarcoidosis

- Ocular
  - Uveitis
  - Optic neuritis
  - Scleritis
  - Retinitis
  - Lacrimal gland swelling

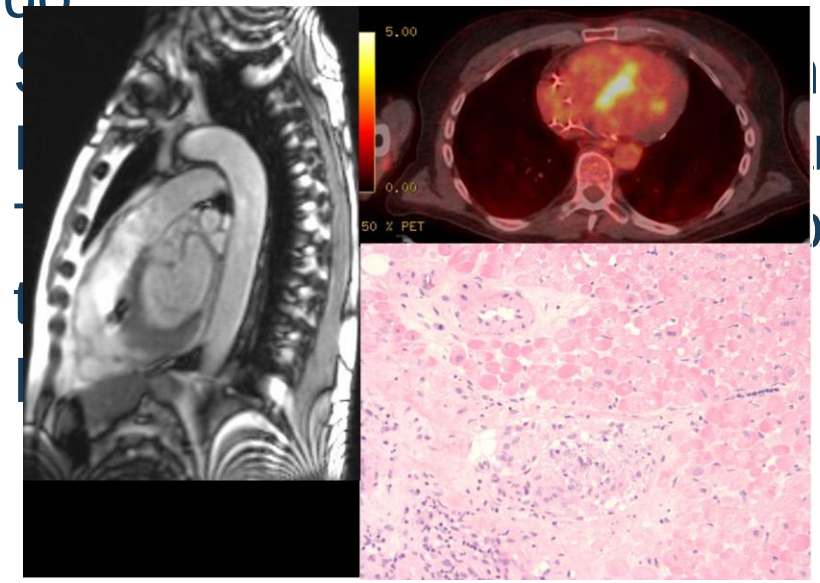


- To do: Baseline eye exam
  - 2020 ATS Guideline: No need for repeated eye exams unless patients develop ocular symptoms
  - For asymptomatic patients, <1% discovery of lesions requiring treatment (Joukainen E 2024; Lee J 2022)

Referrals

Screening for Extrapulmonary Sarcoidosis

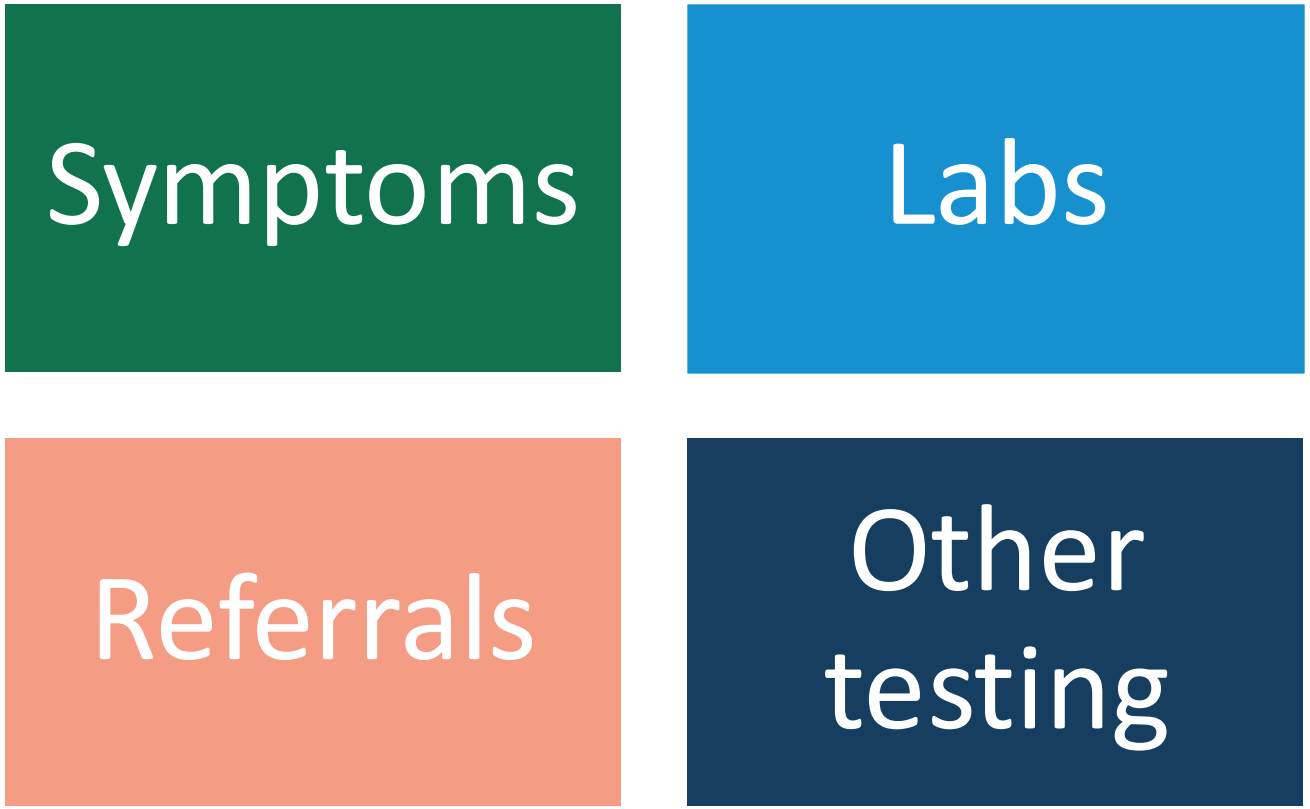
- Cardiac
  - ATS 2020 recommendation: Symptom screen and ECG
  - Heart Rhythm Society 2014 recommendation: Symptom screen, ECG, TTE
- To do:
  - S…s, presyncope or syncope, HF symptoms
  - I… block or AV block, supraventricular arrhythmia
  - T… normalities, LVEF <40%, wall aneurysm or t…
  - I…



Symptoms

Other testing

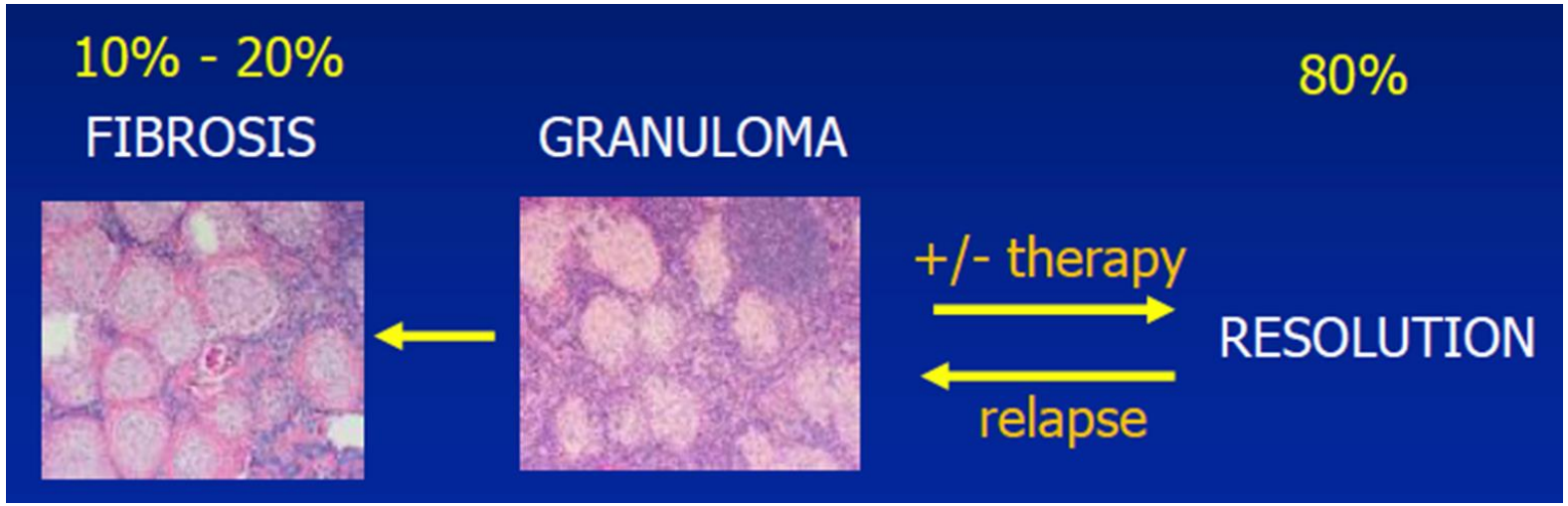
Screening for Extrapulmonary Sarcoidosis



- Symptoms:
  - Rashes, papules, plaques
  - Joint or bone pain or swelling
  - Headaches, motor or sensory deficits
  - Syncope, presyncope
  - Palpitations
  - HF symptoms
- Labs:
  - CBC, CMP
- Referrals:
  - Ophthalmology
- Other testing:
  - ECG
  - +/- TTE

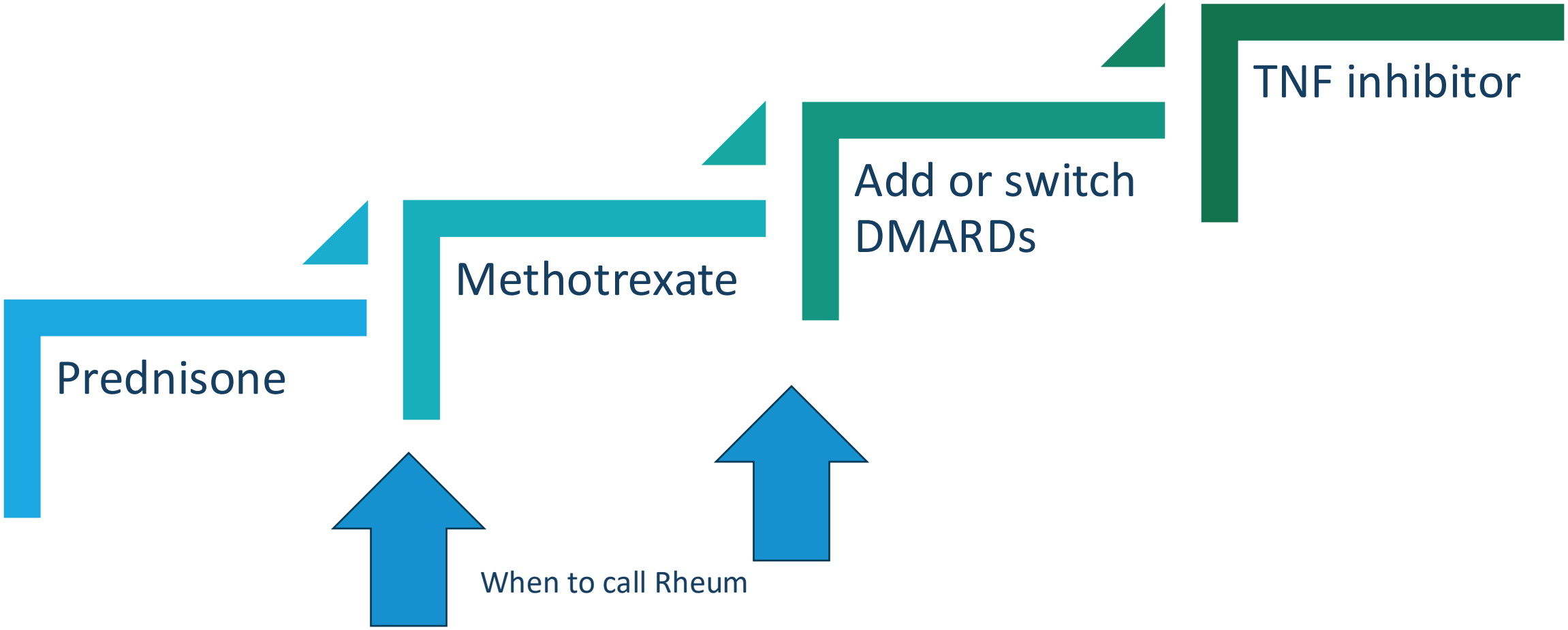
Who should be treated?

1. Hypercalcemia
2. Organ dysfunction
3. Risk of fibrosis



Judson MA 2017

Treatment of Sarcoidosis



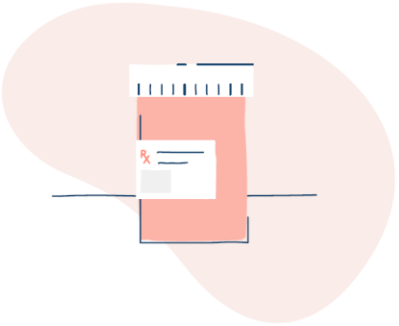
Methotrexate: Well tolerated and safe

Adverse Event	Rate per 100 person-years on methotrexate	Hazard Ratio (95% CI)
Nausea, vomiting or diarrhea	3.9	1.30 (1.03-1.63) *
Severe LFT elevation	1.5	2.67 (1.70-4.19) *
Severe anemia	0.2	1.10 (0.45-2.71)
Cancer	2.2	1.13 (0.85-1.51)
Skin Cancer	1.2	2.04 (1.28-3.26) *
Severe infection	1.1	1.02 (0.69-1.50)
Severe pulmonary AEs	0.3	2.99 (1.34-6.65) *
Pneumonitis	0.2	6.94 (0.85-56)

Solomon DH 2020

How to Prescribe Methotrexate

- Effective dosing range for sarcoidosis: 15-25 mg weekly
- 2.5 mg tablets
  - Branded formulations of 10, 15 or 20 mg tabs are $$$
- Dosed once weekly
- Split dosing provides better bioavailability and less side effects
  - Half the weekly pills in the AM on MTX day, half the weekly pills in PM on MTX day
- Folic acid 1 mg daily



How to Prescribe Methotrexate

.AVSMTX

Methotrexate instructions:

You will take **methotrexate** just one day a week and **folic acid** every day.

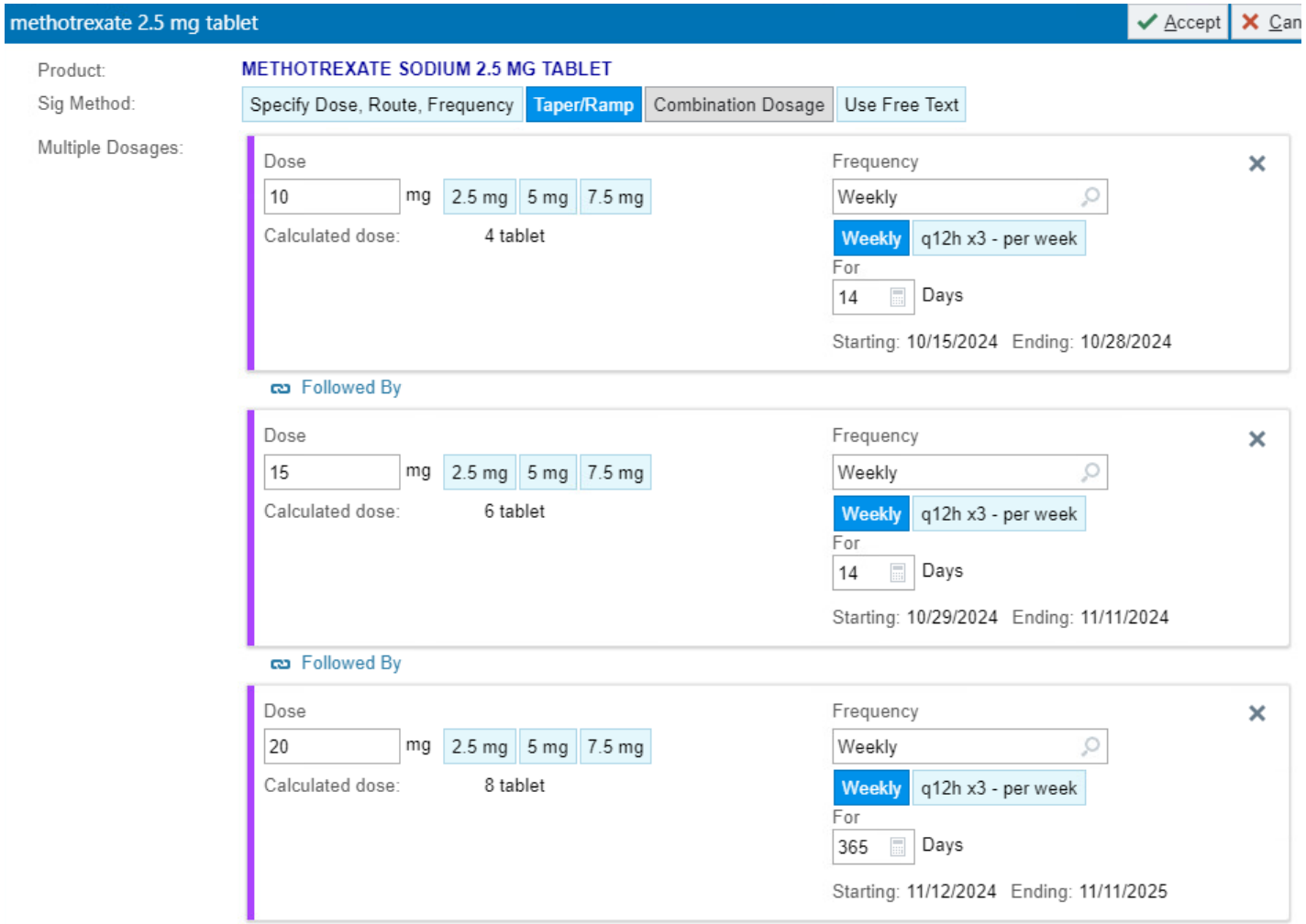
Start with 4 tablets of methotrexate (10 mg) once a week.

After 2 weeks of this dose, increase to 6 tablets of methotrexate (15 mg) once a week.

After 2 weeks of this dose, increase to 8 tablets of methotrexate (20 mg) once a week. On your methotrexate day, take 4 pills in the morning and 4 pills in the evening. All 8 pills must be taken on the same day. Splitting the dose like this helps your body absorb it better.

Have your labs done **1 month** after you start the methotrexate.

As long as you are on methotrexate, you need to take folic acid every day.



Methotrexate Contraindications

- Women of reproductive potential not on reliable contraception
- Alcohol consumption >5 drinks/week
- EGFR <30 (dose adjustment EGFR 30-50)
- Cirrhosis or persistently abnormal LFTs
- Unwilling to have regular bloodwork

Methotrexate Monitoring

CBC, CMP (Or CBC, Cr, AST, ALT)

- Baseline
- After 1 month therapy
- Then every 3 months

Troubleshooting Methotrexate

Ineffective?

- Verify dose and schedule
- Split dosing (half the weekly dose in the AM, half the weekly dose in PM) increases efficacy

Elevated LFTs?

- Counsel on alcohol use
- For mild elevations (30s-40s), OK to repeat in 1-3 months
- For modest elevations (60s-70s), reduce weekly dose by 1 pill

Nausea?

- Take with food
- Take ondansetron with methotrexate
- Split dosing
- Take only at night
- Switch to subcutaneous (1 pill = 0.1 ml)

Stomatitis or hair loss?

- Verify dose and schedule
- Verify folic acid use
- Increase folic acid to 2 mg daily
- Switch from folic acid to leucovorin 5 mg 12 hrs after MTX dose

Fatigue?

- Take at night
- Take Mucinex DM with methotrexate
- Improves with time

Questions?