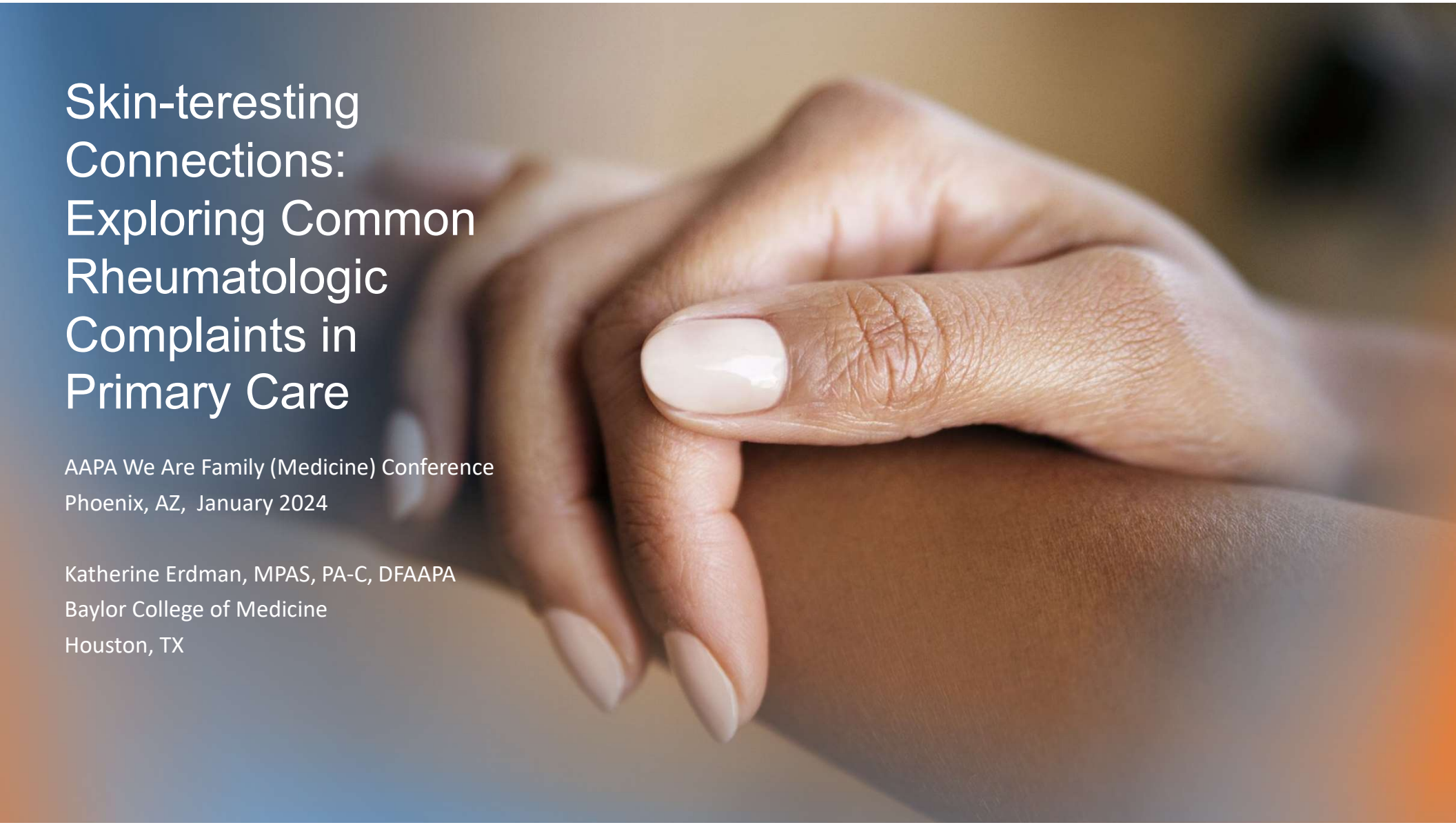

Skin-teresting Connections: Exploring Common Rheumatologic Complaints in Primary Care

AAPA We Are Family (Medicine) Conference
Phoenix, AZ, January 2024

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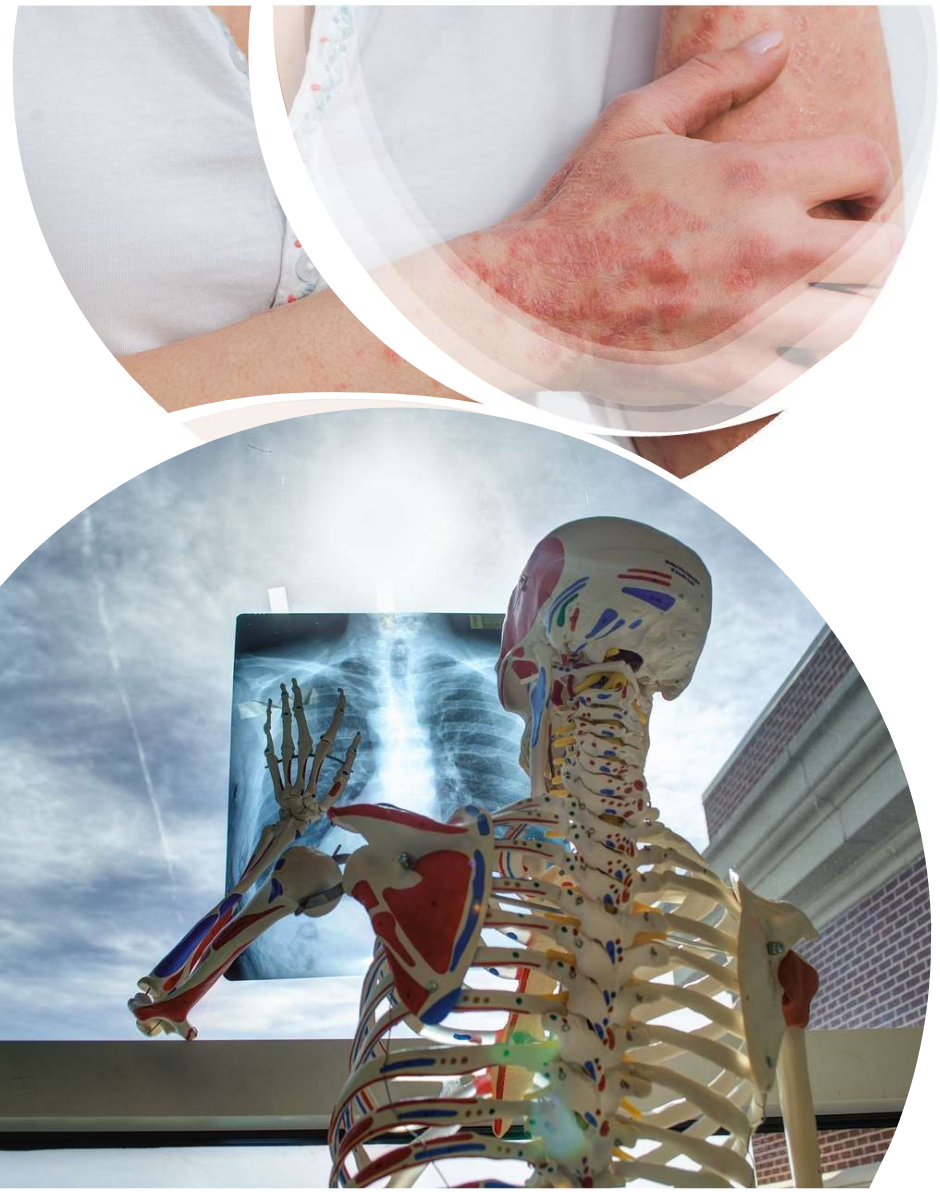
Disclosures

I have no relevant relationships with ineligible companies to disclose within the past 24 months

Educational Objectives

At the conclusion of this session, participants should be able to:

- Describe three rheumatologic complaints that most commonly present in the PCP office
- Recognize signs/symptoms of rheumatologic disease and differentiate between dermatologic findings
- Identify appropriate diagnostic workup for the patient with rheumatologic complaints
- Develop treatment and management plans for rheumatologic conditions that initially present in primary care
- Recognize when to refer for specialty care



Agenda

- What are rheumatological diseases?
- Common complaints in primary care
- Clues to rheumatic disease
- Extra-articular signs and symptoms
- Overview of cutaneous manifestations
- General workup
- Cases with primary care diagnostic workup and management
- Referral to specialty care

What are rheumatological diseases?

https://pixabay.com/photos/computer-seeks-help-1106899/

Common presenting complaints in primary care

- Joint/soft tissue pain and extra-articular signs/symptoms may not be recognized as clues to an inflammatory condition
- Cutaneous signs may point to early rheumatic disease
- Early diagnosis important to mitigate:
  - Systemic lupus erythematosus (SLE)
  - Systemic sclerosis (SSc)
  - Dermatomyositis (DMS)
  - Psoriatic arthritis (PsA)
  - Rheumatoid arthritis (RA)
  - And many others

Recognizing signs and symptoms – general history

- Constitutional symptoms
- Loss of function
- Subacute time course
- Started over weeks to months
- Characteristic symptoms
- Mono or polyarticular joint pain
- Multisystem complaints (**skin**, lung, GI)
- H/o synovitis, **rash**, serositis, +ESR/CRP

Other important historical information

Prodromal events:

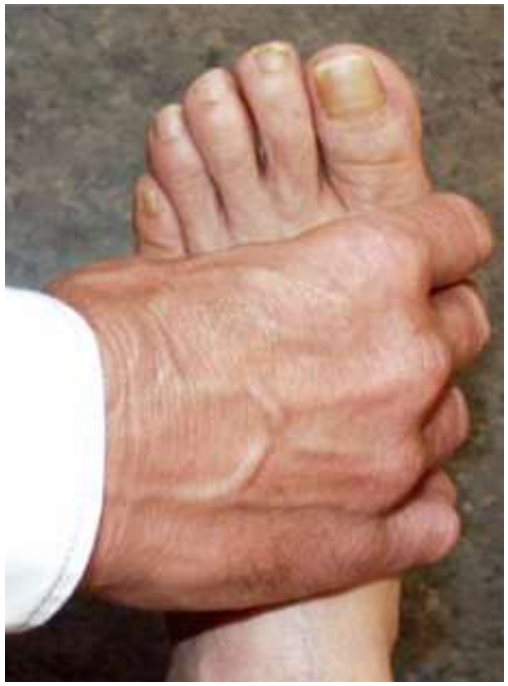
- Acute rheumatic disease may follow infections and vaccinations
- Medication is a potential cause of joint problems

History:

- Previous episodes/diagnosis
- H/o systemic disease: psoriasis, IBD, or history/risk of STI
- FH: inflammatory arthritis, psoriasis

Physical exam

- Look at the whole patient
- Check temperature; ALWAYS consider septic arthritis
- Asymmetry of color, deformity, swelling, function or muscle mass
- Check both passive and active range of joints
- Look for associated features: skin, eyes, pulmonary, cardiovascular, GI or neurological



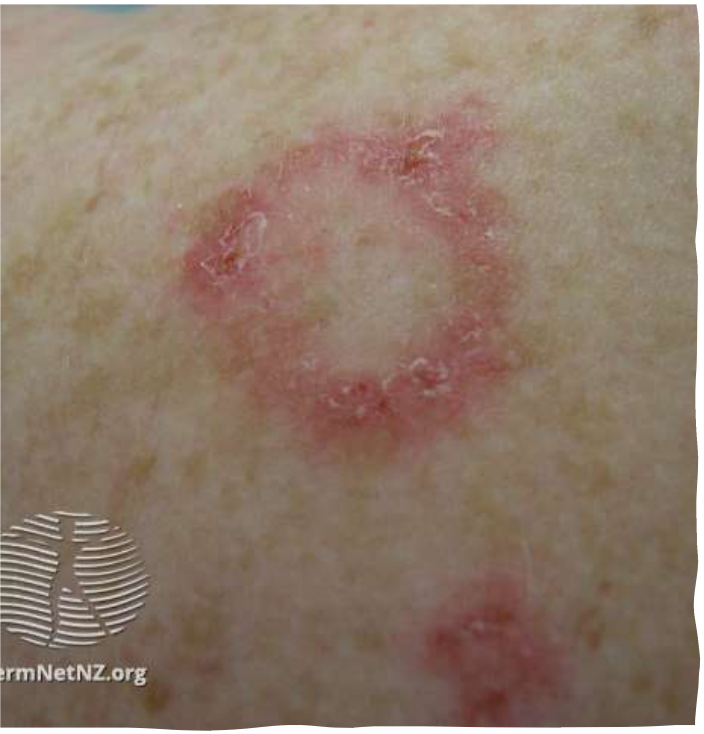
Squeeze test

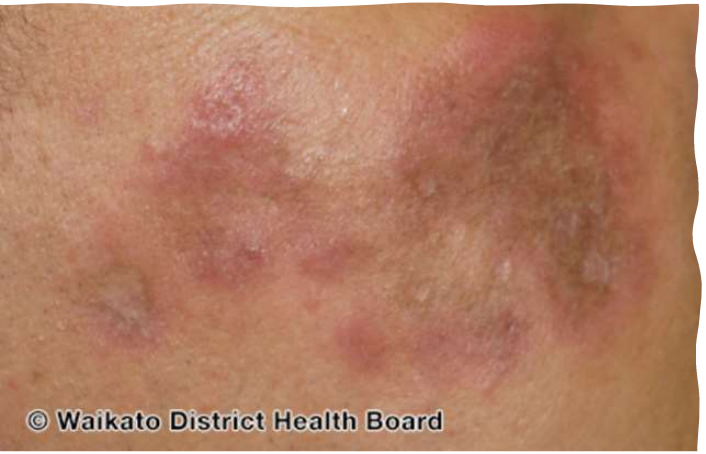
https://www.hss.edu/conditions_early-diagnosis-inflammatory-arthritis.asp accessed 12/3/23

Extra-articular signs and symptoms

- Systemic symptoms
- Transient mild diarrhea
- Urethritis
- Red eyes:
  - Conjunctivitis, uveitis, episcleritis (painless), scleritis (painful), and keratoconjunctivitis
- Cardiorespiratory:
  - Pericardial/pleuritic chest pain
  - Musculoskeletal chest pain
  - Breathlessness
- Neurological:
  - Peripheral neuropathies (entrapment neuropathy), migraine, depression, dementia, CVA

Images: DermNet





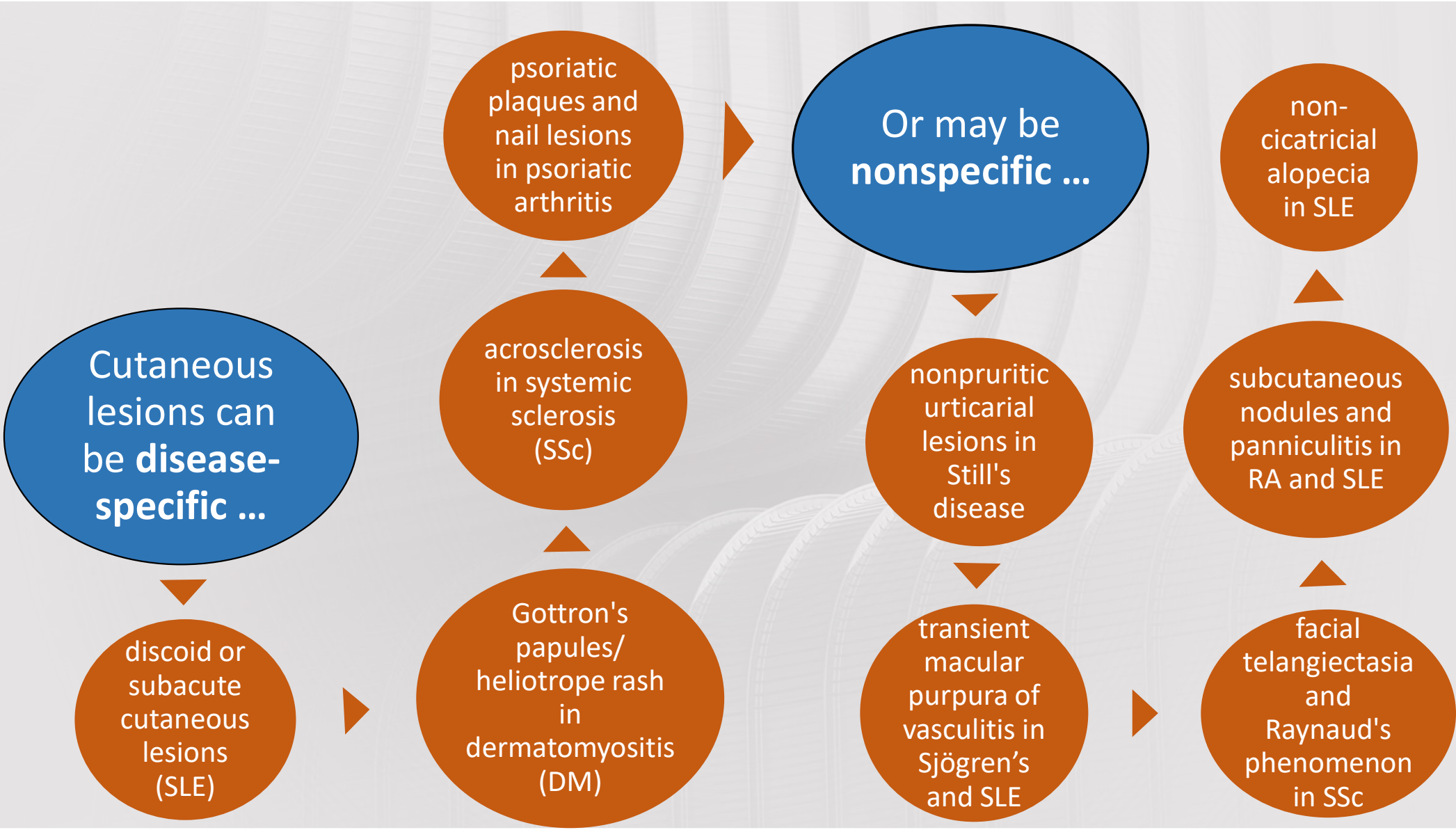
Extra-articular – Cutaneous

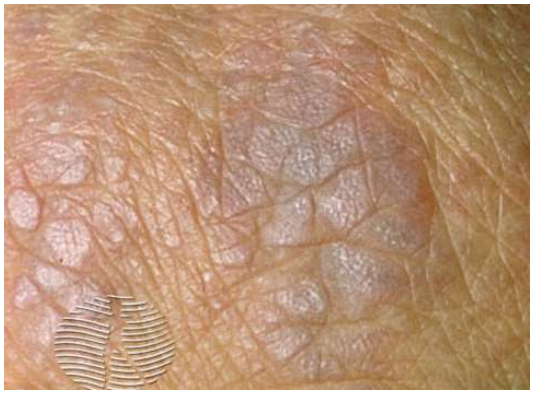
Overview of dermatologic lesions in rheumatology

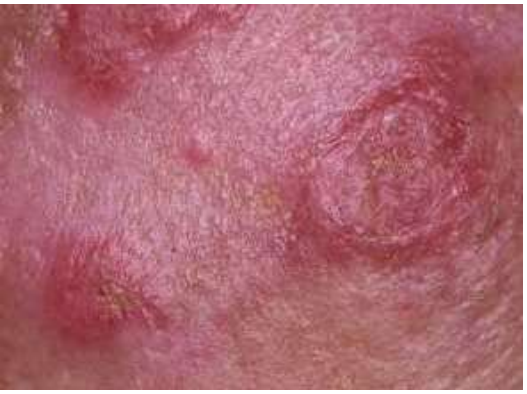
Images: DermNet

Not just rashes….

- Intermittent rashes common
- Photosensitivity
- Genital ulcers
- Oral ulcers
- Dry mouth (xerostomia)
- Vascular lesions
- Post-inflammatory changes and scarring
- Other lesions: urticaria, psoriasis, livedo reticularis, telangectasia, purpura, panniculitis **and more**


Cutaneous lesions can be **disease-specific …**
discoid or subacute cutaneous lesions (SLE)
Gottron's papules/ heliotrope rash in dermatomyositis (DM)
acrosclerosis in systemic sclerosis (SSc)
psoriatic plaques and nail lesions in psoriatic arthritis
Or may be **nonspecific …**
transient macular purpura of vasculitis in Sjögren's and SLE
nonpruritic urticarial lesions in Still's disease
facial telangiectasia and Raynaud's phenomenon in SSc
subcutaneous nodules and panniculitis in RA and SLE
non-cicatricial alopecia in SLE

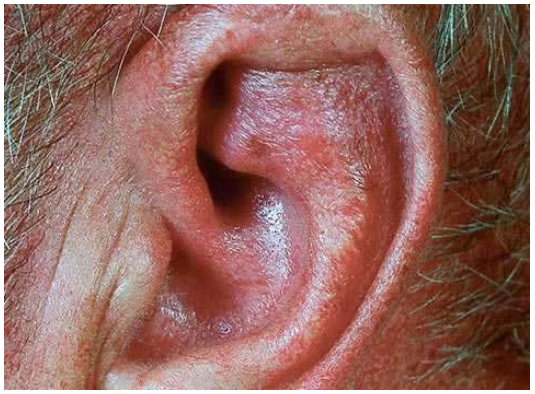


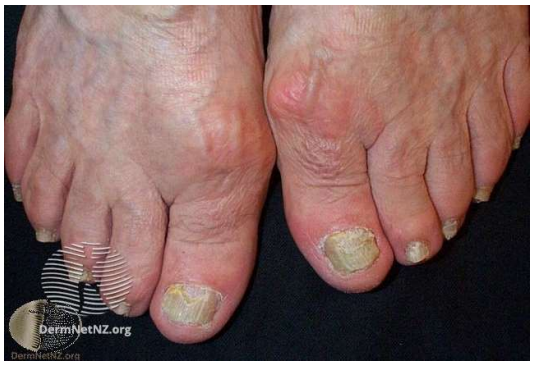


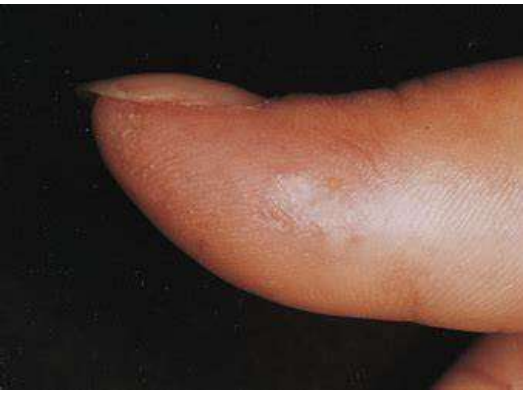
Disease-specific

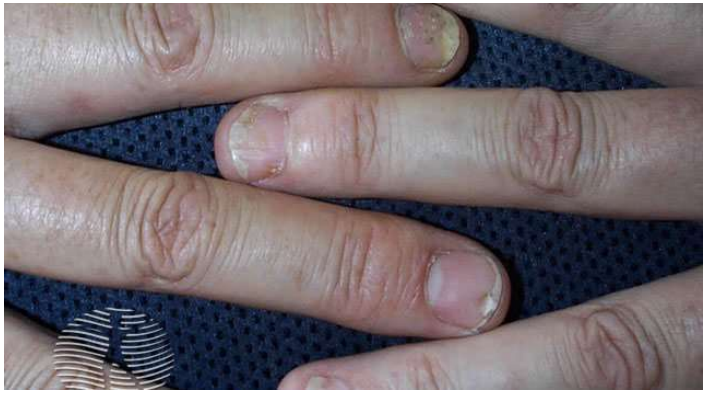
- Dermatomyositis
- Discoid lupus

Images: DermNet





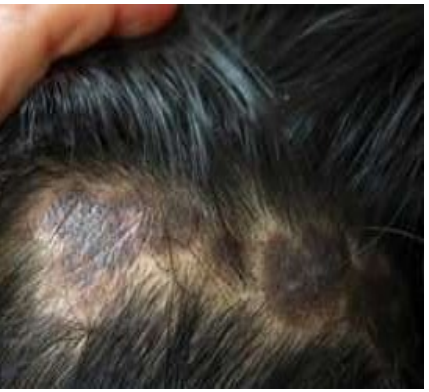


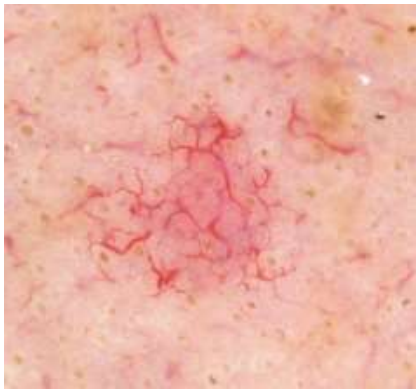


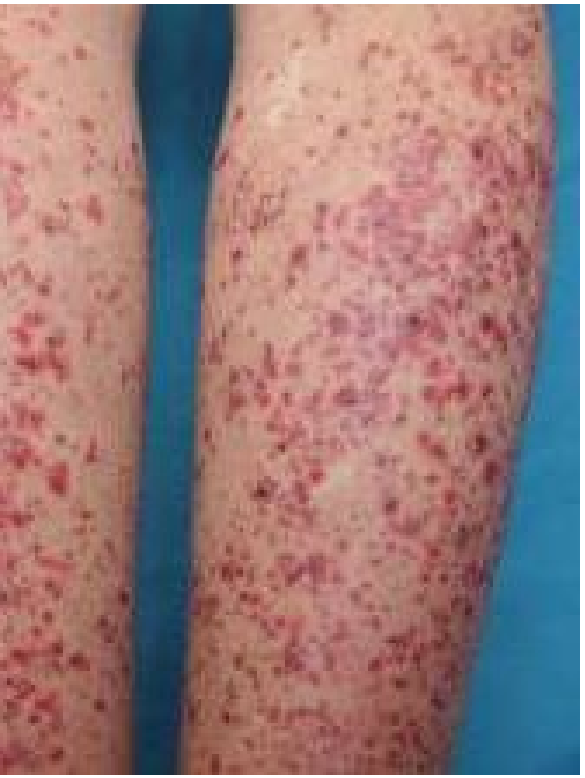
Disease-specific

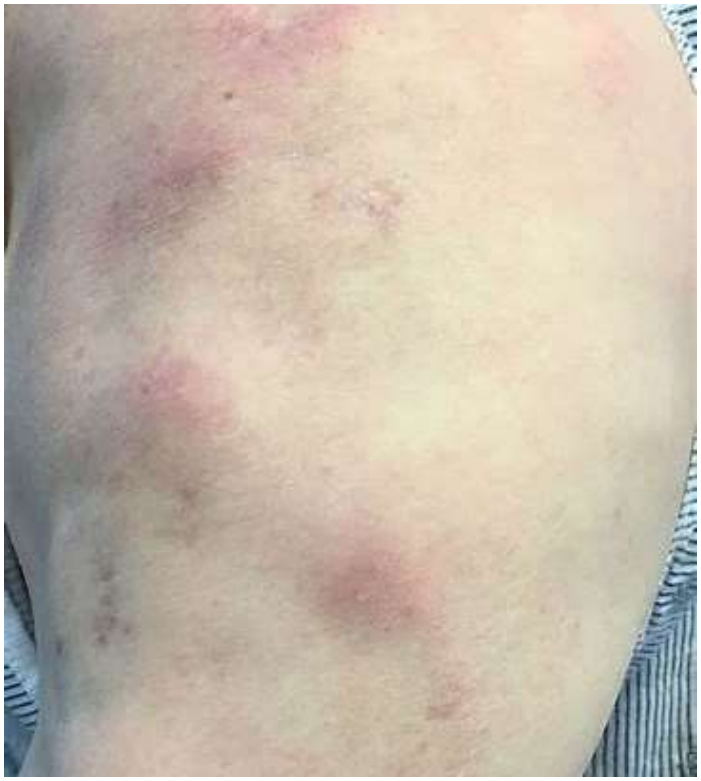
- Psoriatic arthritis
- Systemic sclerosis
- Polychondritis

Images: DermNet





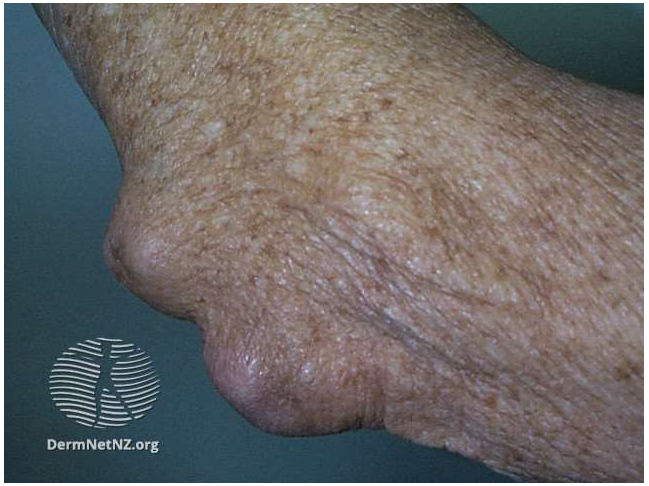


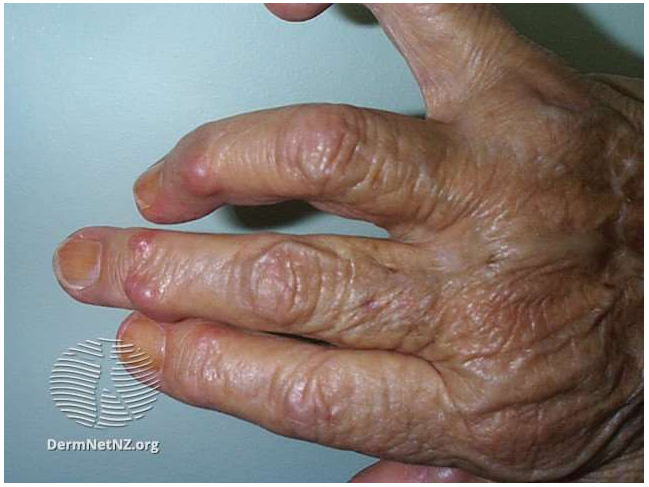


Nonspecific

- Occurs in more than one inflammatory rheumatic disease or in non-rheumatic disease
- Raynaud's
- Alopecia
- Vasculitis
- Telangectasia
- Panniculitis

Images: DermNet





Rheumatoid Arthritis

- Rheumatoid nodules
- Rheumatoid vasculitis
- Accelerated rheumatoid nodulosis
- Interstitial granulomatous dermatitis
- Rheumatoid neutrophili dermatoses or Sweet syndrome
- Pyoderma gangrenosum
- Livedo racemosa
- Palmar erythema

Images: DermNet

How do you get started on the work up?

- **Stepwise approach**
- **Laboratory tests**: CBC, CMP, UA with microscopic
  - Initially may include ESR, CRP, RF, ANA
  - More targeted: anti-double-stranded DNA (dsDNA), Sm, RNP, centromere, Ro/SSA, La/SSB, Jo-1, Scl-70, and PM1 antibodies
  - Antineutrophil cytoplasmic (ANCAs), creatine kinase (CK), myositis- specific antibody panel, anti-CCP, uric acid, ACE, cryoglobulins, (HLA) B27, Hep B/C, etc.
- **X-ray**
- **Biopsy**
- **Arthroscopy and synovial fluid analysis**

Mixed connective tissue disease	
Lupus-scleroderma-polymyositis-rheumatoid arthritis	
Undifferentiated systemic rheumatic disease	(Early) undifferentiated connective tissue, ular, or autoimmune disease
Nonclassic systemic lupus erythematosus	iant, or near, borderline, plete, possible, or obable lup
Nonclassic rheumatoid arthriti	Palindromic rhe ore-rheumatoid arthritis, early rhe arthritis
Nonclassic scleroderma	Prescleroderma
Overlap syndromes	
Rheumatoid arthritis-lupus	Rhupus
Scleroderma-polymyositis/dermatomyositis	
Scleroderma-lupus	
Scleroderma-rheumatoid arthritis	
Other scleroderma overlaps	
Polymyositis overlaps	
Juvenile idiopathic arthritis-lupus	
Sjögren's syndrome overlaps	
Other	
Undifferentiated polyarthritis syndrome	
Undifferentiated spondyloarthritis	

Use caution in assigning a diagnosis: remember there are overlap syndromes!

Initial treatment

Treatment and Management in Primary Care

Non-pharmacological interventions

Lifestyle modifications

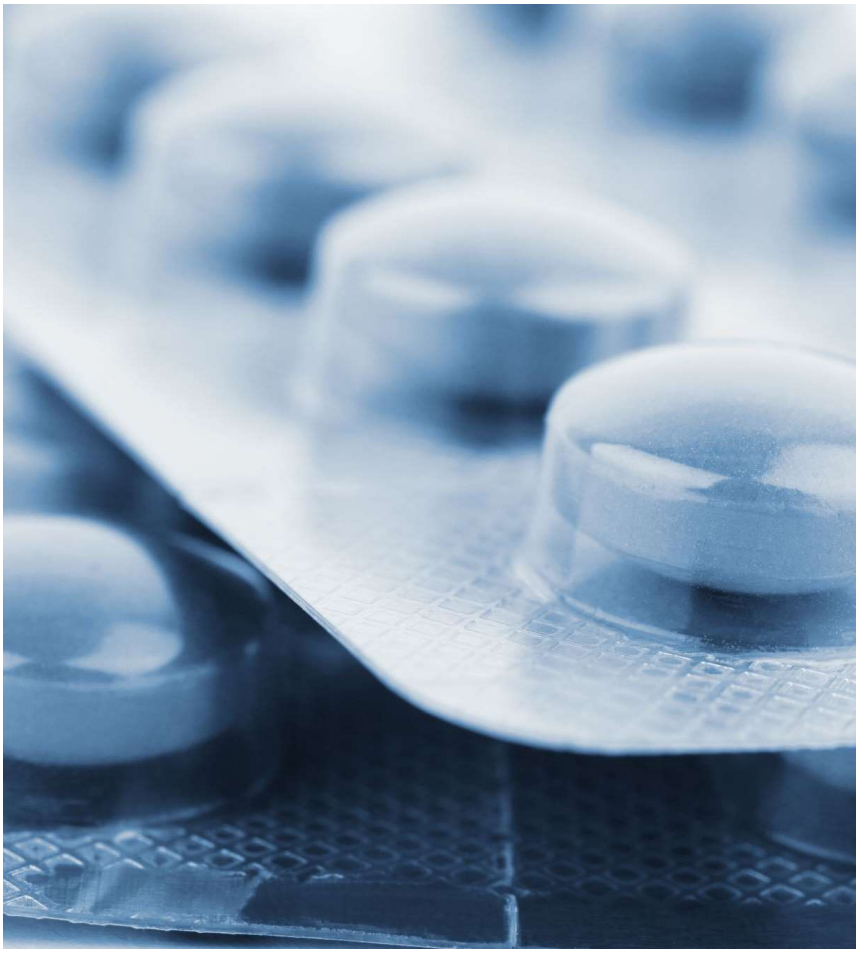
Physical therapy

Pharmacological options

Pain management

Disease-modifying antirheumatic drugs (DMARDs)

Symptomatic relief medications



Anti-Rheumatic Drugs

- NSAIDs
- Glucocorticoids
- Disease-modifying antirheumatic drugs (DMARDs)
- Synthetic DMARDs
- Targeted DMARDs
- Immunosuppressants
- Biologic DMARDs

Cases

Case 1

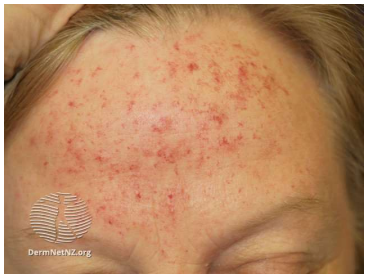
Name: Billie Jones

Age: 42 years

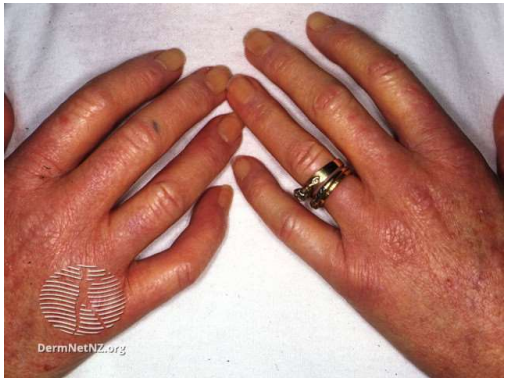
Chief Complaint: fatigue, joint pain, tight skin

HPI:

Billie, a 48-year-old woman, presents with a several-month h/o increasing fatigue and joint pain. She reports a sensation of tightness in her skin, especially over her hands and face. The joint pain is symmetrical, involving small and large joints, including her fingers.



Clinical Examination



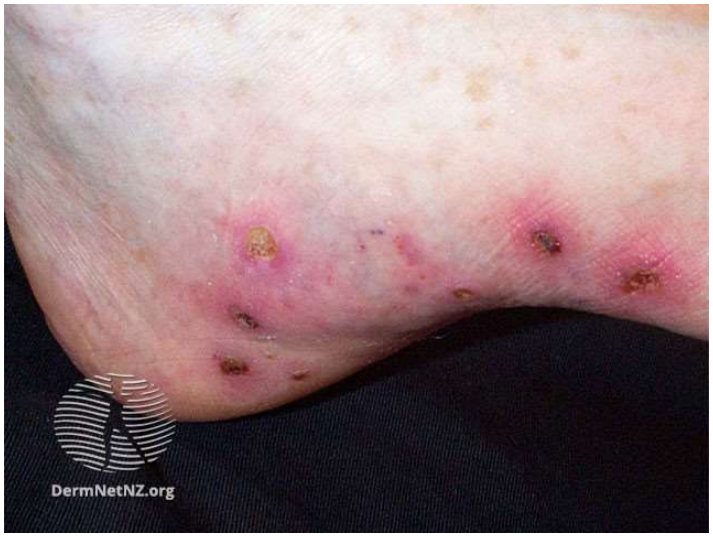
- Mild shortness of breath on exertion
- Dry cough

- No fever or significant weight loss
- No history of major infections
- No FH of autoimmune diseases

- Tight and shiny skin on hands and face
- Telangiectasia on face
- Loss of skin creases on fingers
- Bilateral symmetric joint pain
- Limited ROM in affected joints
- Episodes of color changes (white, blue, then red) in fingers/toes

Potential Diagnosis

Systemic Sclerosis (SSc)



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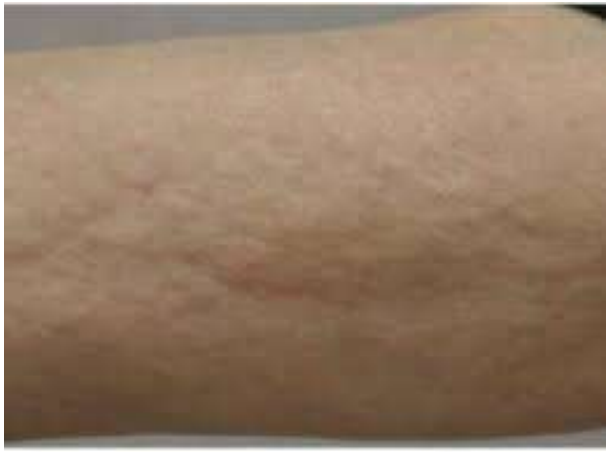
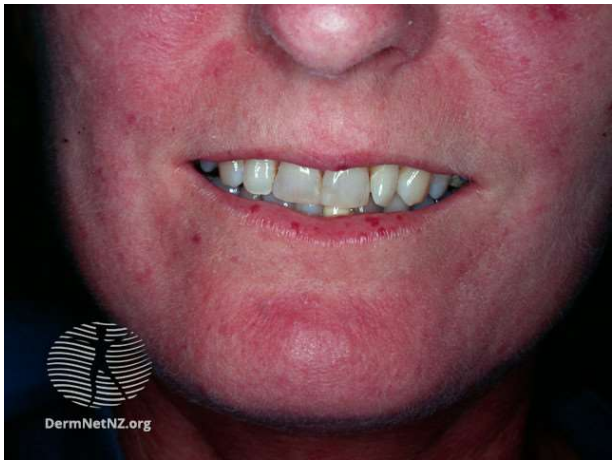
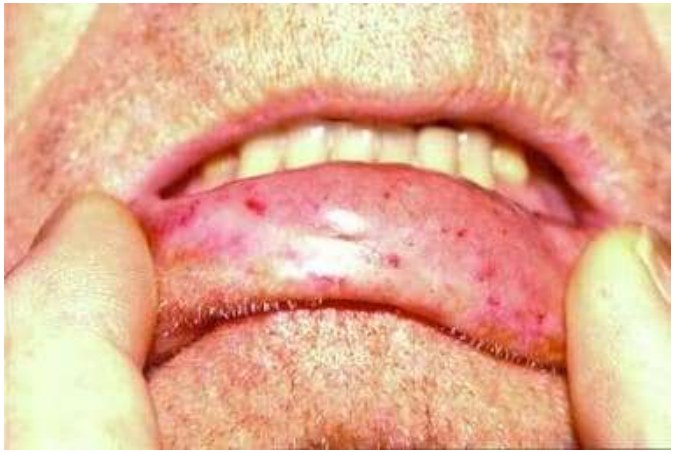
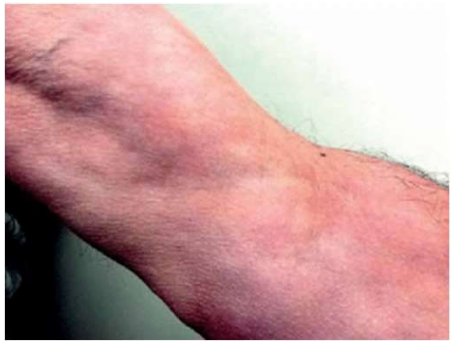
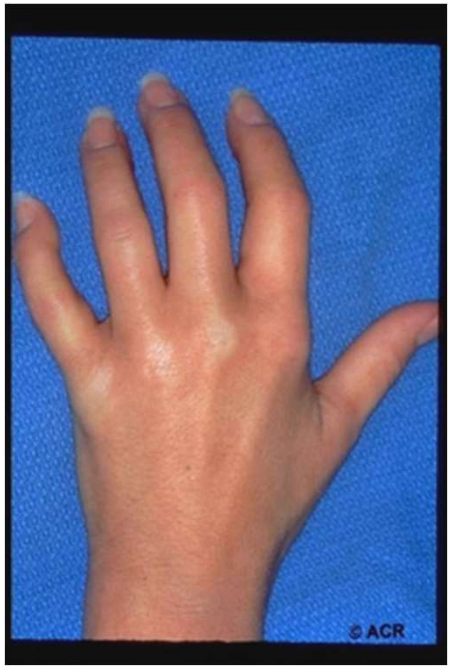
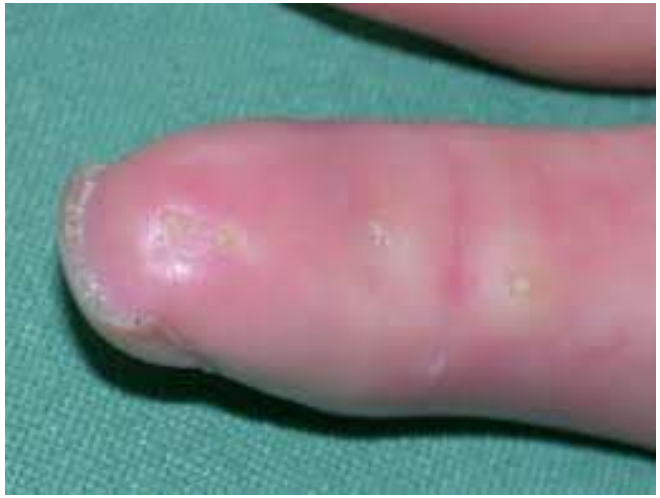


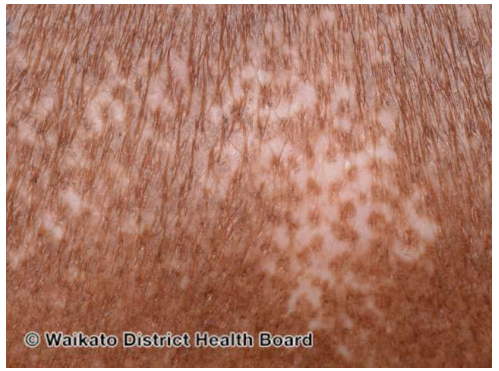




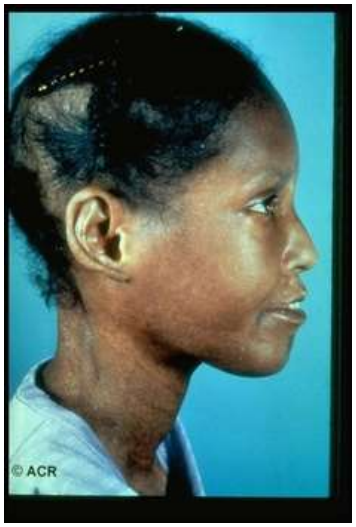


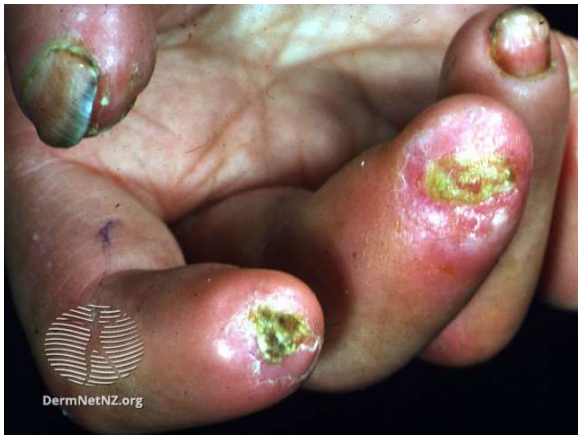


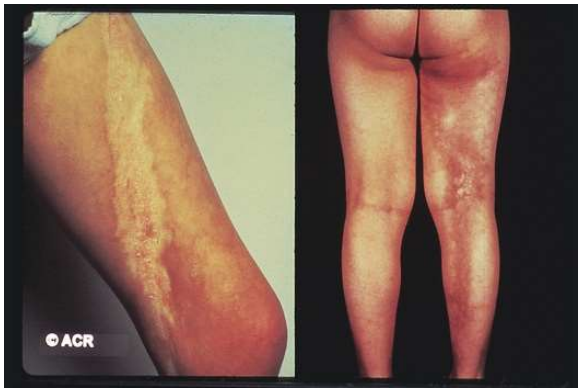


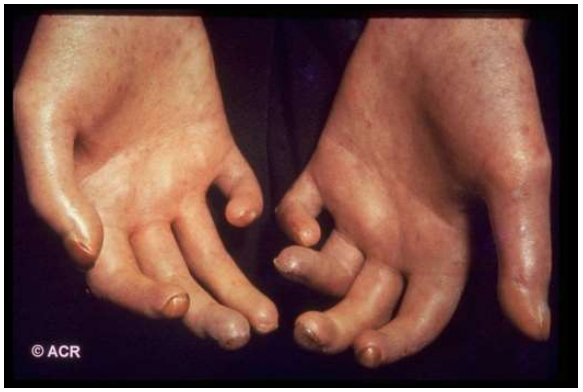


Images: DermNet









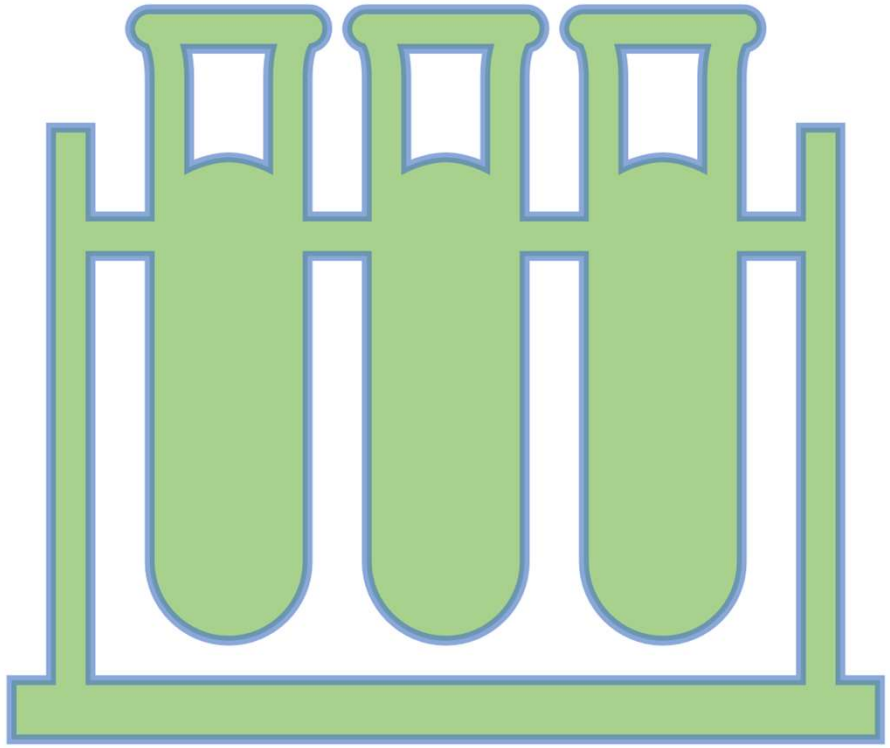
- Late stage SSc
- Linear scleroderma

Images: DermNet

Next Steps

Consider:

- CBC, UA, creatinine
- Creatine Kinase (CK)
- ANA
- Anti-Scl-70
- Anti-RNA polymerase III
- Anticentromere antibody (ACA)
- CT of the chest



Lab and scan results

CBC: **anemia**
UA and Creatinine: normal
CK: not elevated
ANA: **Positive; centromere** pattern
Anti-Scl-70: **Positive**
Anti-RNA: Negative
ACA: Negative
CT Chest: **Moderate presence of interstitial changes in lung parenchyma, including reticular opacities in a basal and peripheral distribution, ground-glass opacities, and pleural thickening**

Management in Primary Care

- NSAIDs or acetaminophen
- Treatment of cutaneous symptoms
- Referral to Rheumatologist
- Referral to other specialists
- Ongoing Monitoring

Case 2

Name: Martin Reyes

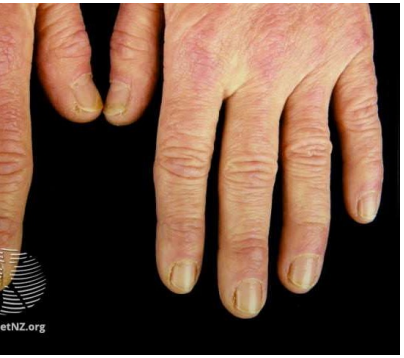
Age: 49 years

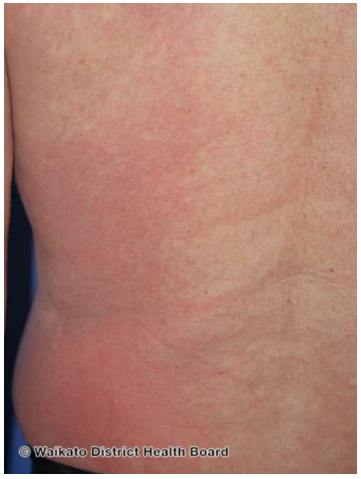
Chief Complaint: muscle weakness, skin changes

HPI:

Martin, a 49-year-old man, presents with a few months of progressive muscle weakness and skin changes. Reports difficulty climbing stairs and raising his arms. Notices a rash on his face, knuckles, chest, and back.

Clinical Examination





- Fatigue
- Low-grade fever

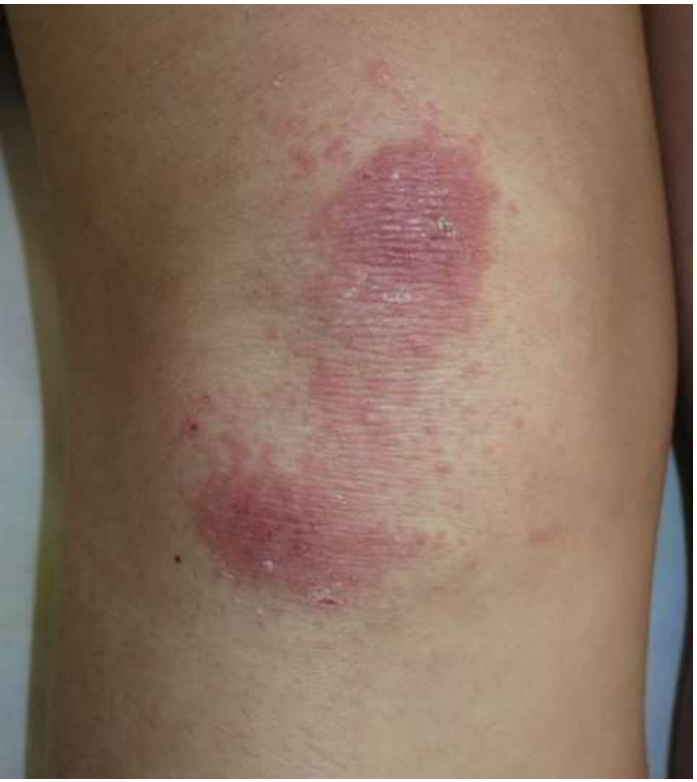
- Mild difficulty swallowing

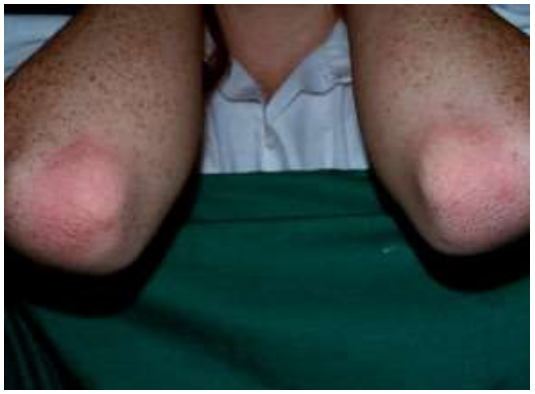
- No recent infections
- No significant weight loss
- No family history of autoimmune diseases

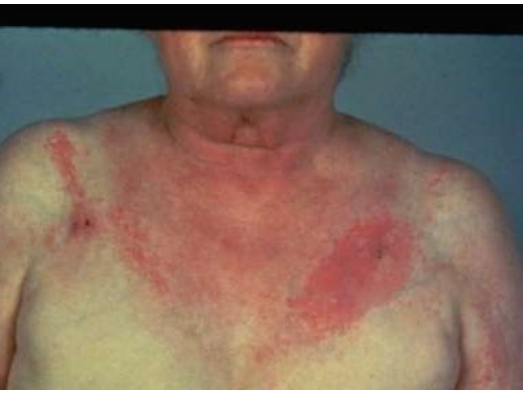
- Proximal muscle weakness shoulders and hips
- Difficulty rising from a seated position
- Reddish-purple eruption on the eyelids
- Dusky-red papules on the knuckles
- Erythematous rash over the chest and back

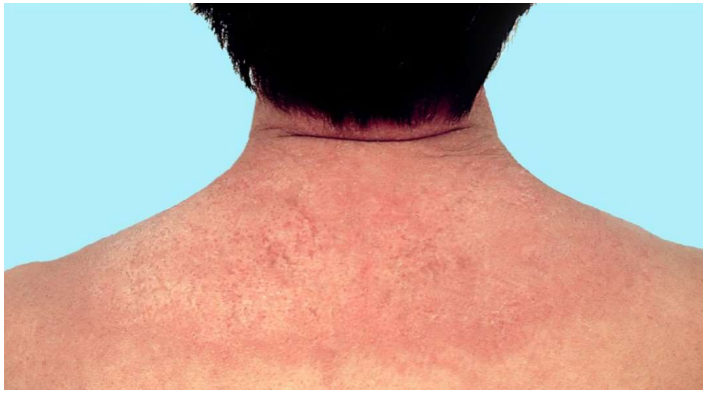
Potential Diagnosis

Dermatomyositis









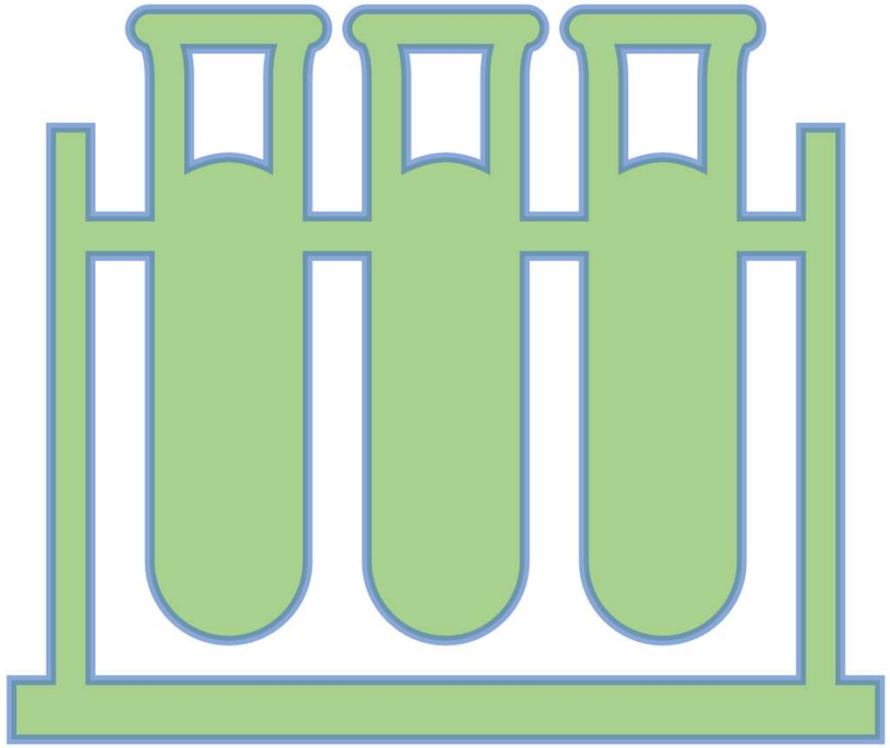
- V-sign
- Shawl sign
- Nail bed telangectasias
- Erythematous rash of knees and elbows

Images: DermNet

Next Steps

Consider:

- Creatine Kinase (CK)
- AST, ALT, LDH, Aldolase
- ANA, anti-Jo-1, anti-PM-Scl
- Electromyography (EMG)
- Muscle biopsy
- Possible MRI
- PFTs



Results

CK: 10,000 U/L **(markedly elevated)**

AST: 80 U/L (**mildly elevated**)

ALT: 60 U/L (**mildly elevated**)

LDH: 600 U/L (**elevated**, nl 140-280 U/L)

Aldolase: 15 U/L (**elevated,** nl 1-7.5 U/L)

ANA: **Positive** at a titer of 1:640

Anti-Jo-1 Antibody: **Positive**

Anti-PM-Scl Antibody: Negative

Electromyography (EMG) Report: **Abnormal spontaneous activity consistent with myopathy**

Muscle Biopsy**: Findings consistent with dermatomyositis; characteristic histopathological features indicative of inflammatory myopathy**

Management in Primary Care

- Corticosteroids
  - High-dose oral prednisone initially
  - Gradual tapering
- Referral to Rheumatologist
- Referral to other specialists
- Symptomatic relief
- Monitoring

Case 3

Name: Alexis Williams

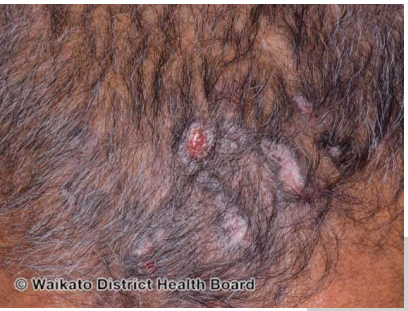
Age: 28 years

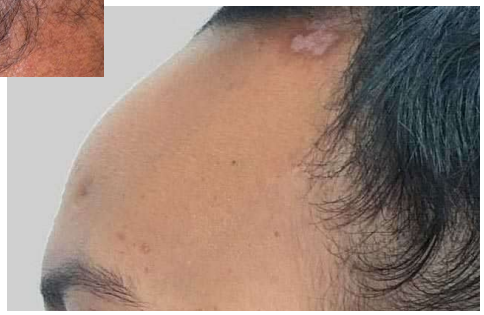
Chief Complaint: Fatigue, joint pain, hair loss, rash

HPI:

Alexis, a 28-year-old female, reports a several-month history of increasing fatigue, joint pain and hair loss. She recently developed a painless round lesion on her forehead and a rash on her scalp.

Clinical Examination





Images- DermNet

- Fatigue, weakness, low-grade fever
- Occasional foamy urine
- Morning stiffness lasting about an hour
- H/o rash after sun exposure
- No significant weight loss

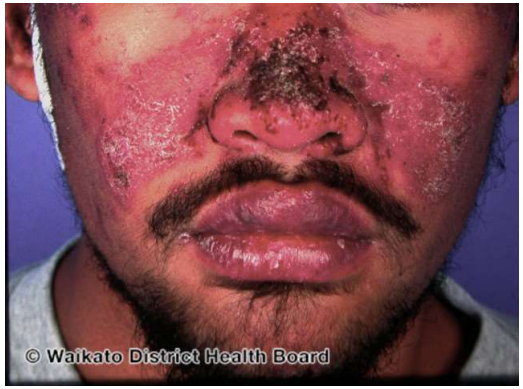
- G4P2: spontaneous abortions at 15 & 17 wks
- FH of autoimmune diseases

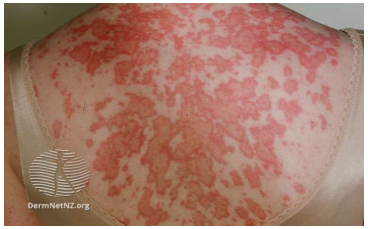
- Discoid rash on the forehead
- Scarred and ulcerated plaques on scalp
- Non-scarring hair loss
- Symmetric joint pain with active/passive ROM affecting hands, wrists, and knees

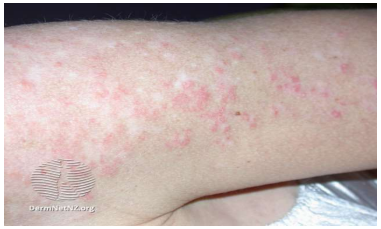
Potential Diagnosis

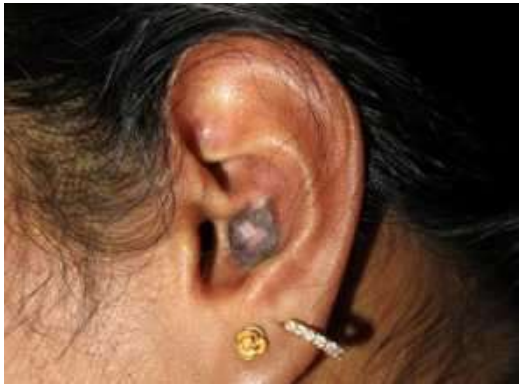
Systemic Lupus Erythematosus (SLE)

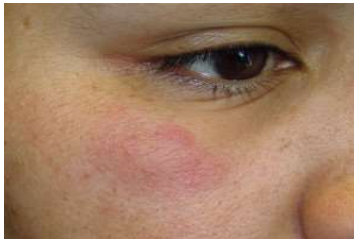
Cutaneous manifestations of lupus erythematosus			
Subtype	Clinical presentation	SLE assoc	Scarring
Acute	• Malar ('butterfly') rash • Photosensitive erythema • Upper limb erythematous papules/plaques • Cheilitis • Vasculitis	Almost all	No
Subacute	• Papulosquamous and/or annular rash over trunk/arms • Photosensitive erythema	50%	Uncommon
Chronic (discoid, hypertrophic, mucosal)	• Localized erythrosquamous patch/plaque with follicular plugging over sun-exposed areas • Usually on the face and scalp (alopecia) • Lupus profundus (subcutaneous nodules, followed by lipoatrophy) • Chilblain lupus (tender, bluish plaques and nodules in cold-exposed areas)	5–10%	Frequent

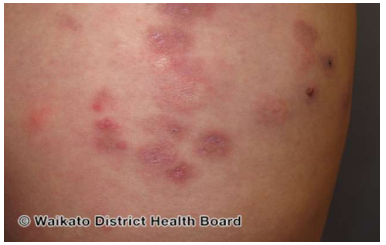


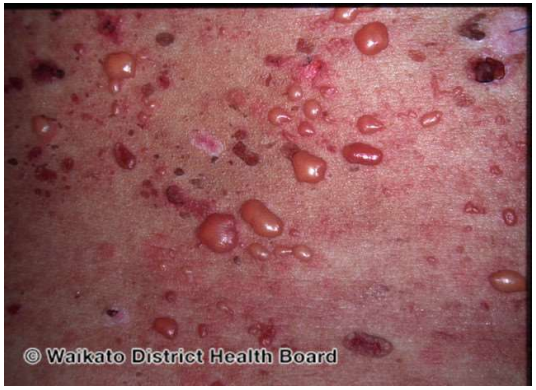


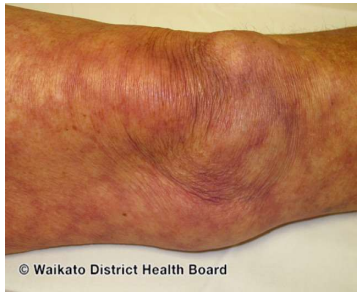


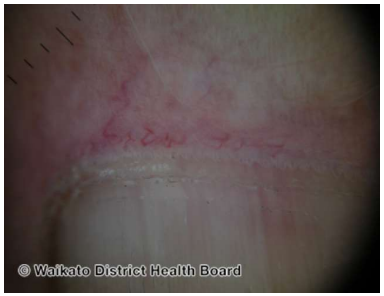


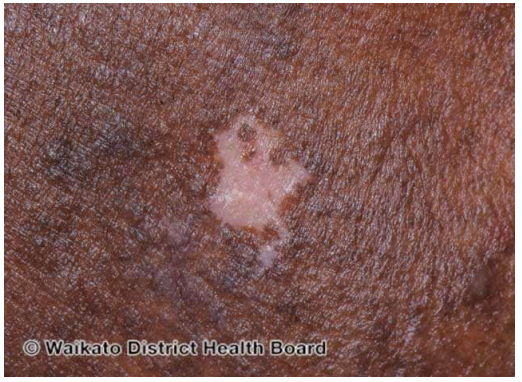










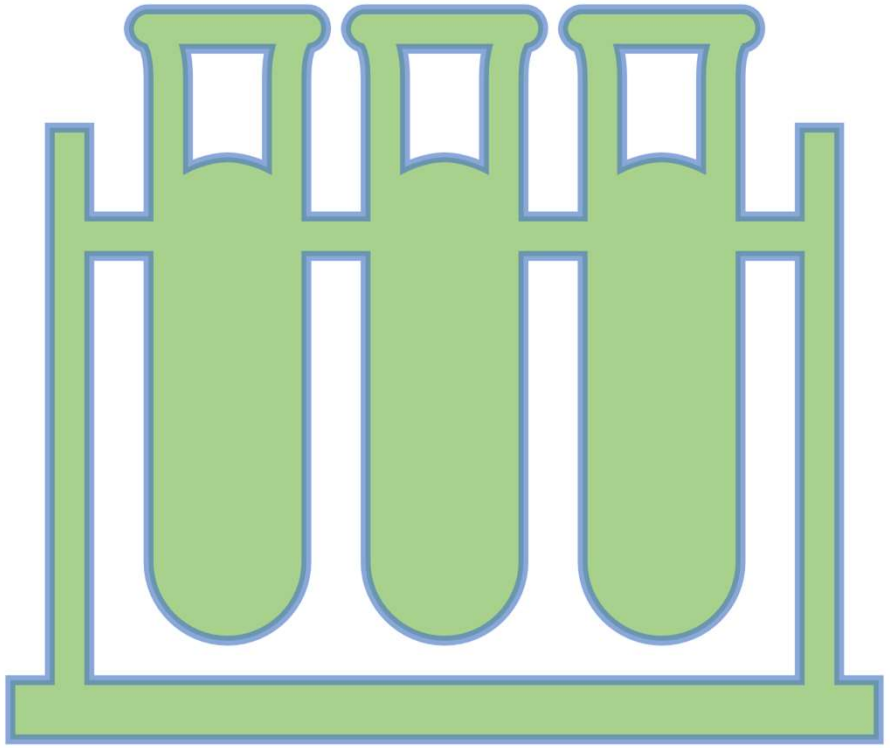


Images: DermNet

Next Steps

Consider:

- Dermatological assessment of rash
- CBC, ESR or CRP
- Serum creatinine and UA
- ANA and anti-double-stranded DNA (anti-dsDNA) antibodies
- Complement C3 and C4
- Anti-cardiolipin antibodies
- Lupus anti-coagulant
- Rheumatoid factor (RF), or anti-CCP



Results

- CBC: normal Hgb and WBC, platelets 98,000 **(low)**
- Serum creatinine: 0.6 mg/dL (normal)
- UA: protein **2+,** RBCs 5-10 hpf **(abnormal)**
- ANA: 1:640 **(high titer)**
- RF: Negative
- Anti-CCP: Negative
- Anti-dsDNA: 210 **(positive)**
- Anti-cardiolipin antibodies: IgM negative, IgG 38 (0.38) GPL **(moderately elevated)**
- Lupus anti-coagulant: Negative
- C3 and C4: Normal

Management in Primary Care

- NSAIDs
- Antimalarials
- Urgent referral to Rheumatologist
- Referral to other specialists
- Symptomatic relief
- Monitoring

Long term considerations for many autoimmune diseases

- Increased risk of CV death due to inflammation and accelerated atherosclerosis
- Osteoporosis from glucocorticoids
- Infections
- Increased risk of certain malignancies

Collaborative Care to improve patient outcomes

Primary Care

Rheumatologist

- Provisional diagnosis
- Early referral to rheumatologist
- Monitor for disease progression, medication toxicities and co-morbidities

- Confirm diagnosis
- Initiate early and aggressive DMARD Rx
- Monitor for disease progression, medication toxicities and co-morbidities

Referral to Specialty Care

- Ensure **timely** access
- **Unexplained** joint pain/swelling/muscle pain
- **Repeated** episodes of joint pain, swelling, fever, rash
- **Definite/likely diagnosis** of rheumatological disorder
- Need for **personalized** treatment plan
- **Frequent attacks** of gout despite meds
- **Rapid developments in treatment**
- **Prescribing uncertainty** or discomfort
- When **specialist experience** with meds reduces potential for harm
- When **specialist experience** with diagnosis reduces risk for complications
- **For SEPTIC ARTHRITIS**

Key Takeaways

- Cutaneous manifestations are often the first sign of a rheumatological disease; comprehensive assessment enables accurate diagnosis
- These features can be debilitating symptomatically, functionally, and psychologically
- Use caution in assigning a diagnosis to patients who do not meet currently accepted criteria
- Usually, patients should receive multidisciplinary input, which may include collaboration between PCPs (MD, PA, NP), rheumatologists, dermatologists, and other specialists
- Refer to specialists early to ensure timely diagnosis and effective treatment
- Always refer for septic arthritis

Questions?

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References

1. Alves F, Gonçalo M. Suspected inflammatory rheumatic diseases in patients presenting with skin rashes. Best Pract Res Clin Rheumatol. 2019 Aug;33(4):101440. doi: 10.1016/j.berh.2019.101440. Epub 2019 Oct 1. PMID: 31585842.
2. Mazzoni D, Kubler P, Muir J. Recognizing skin manifestations of rheumatological disease. Aust J Gen Pract. 2021 Dec;50(12):873-878. doi: 10.31128/AJGP-02-21-5863. PMID: 34845466.
3. Clinical manifestations and diagnosis of systemic sclerosis https://www.uptodate.com/contents/clinical-manifestations-and-diagnosis-of-systemic-sclerosis-scleroderma-in-adults?search=systemic%20sclerosis%20diagnosis&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1
4. Clinical manifestations and diagnosis of systemic lupus erythematosus https://www.uptodate.com/contents/clinical-manifestations-and-diagnosis-of-systemic-lupus-erythematosus-in-adults?search=sle&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1
5. Management of discoid lupus erythematosus and subacute cutaneous lupus erythematosus in adults https://www.uptodate.com/contents/initial-management-of-discoid-lupus-erythematosus-and-subacute-cutaneous-lupus-erythematosus?search=sle%20treatment&topicRef=4675&source=see_link
6. Overview and approach to the idiopathic inflammatory myopathies https://www.uptodate.com/contents/overview-of-and-approach-to-the-idiopathic-inflammatory-myopathies?search=dermatomyositis&source=search_result&selectedTitle=5~150&usage_type=default&display_rank=5#H4056013949