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The France Foundation

The Essential Role of Primary Care

in the Diagnosis, Assessment, and Co-Management of

SLE

Agenda

I. Introduction

II. Case 1–Felicia: Approach to SLE diagnosis and treatment

III. Case 2–Trina: Management of SLE; pregnancy considerations

IV. Key Takeaways

V. Q&A

Learning Objectives

- Describe key evidence-based strategies for diagnosing SLE
- Use effective strategies to assess and co-manage patients with SLE over time
- Summarize key aspects of established treatments for SLE
- Monitor patient for treatment side effects
- Develop a plan for communicating with patients about SLE, its treatment, and the importance of adhering to therapy

Content Developed by Multidisciplinary Steering Committee

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GET YOUR PHONES or TABLETS READY!

- You will access the Pretest, Posttest, and Interactive Questions on your phone via the QR Code or web browser

How to Use Your Phone to Answer Polling Qs

Answering today's polling questions is required to receive credit

FIRST start a new text message and type this number: **22333**

THEN type a message that says **TFFlive** and hit **Send**

You're ready to go!

Simply text A, B, C… to answer when you see a question slide pop up

Which superpower would you like to have?

Mind reading

Invisibility

Teleportation

Flying

I already have a superpower

Pretest Question #1: Which of the following anti-nuclear antibody (ANA) patterns almost always indicates systemic lupus erythematosus (SLE)?

Nucleolar

Peripheral or rim

Speckled

I’m not sure which is correct

Pretest Question #2: On the basis that American College of Rheumatology criteria are met, which of the following patients would you refer to a rheumatologist for confirmation of an SLE diagnosis?

A patient with joint disease, malar (butterfly) rash, and a positive ANA

A patient with serositis, lymphopenia, and low complement (C3) levels

A patient with oral ulcers, joint disease, serositis, and leukopenia

I'm not sure which is correct.

Just 2 more questions, almost done!

Pretest Question #3: In a study by Manzi and colleagues, how much more likely were women ages 35-44 years with SLE to have a myocardial infarction compared to age-matched controls?

2 times

5 times

25 times

50 times

Pretest Question #4: In the BLISS-76 clinical trial of belimumab, what percentage of patients on the 10 mg/kg dose were responders on the Systemic Lupus Erythematosus Response Index (SRI)?

28.6%

38.5%

44.8%

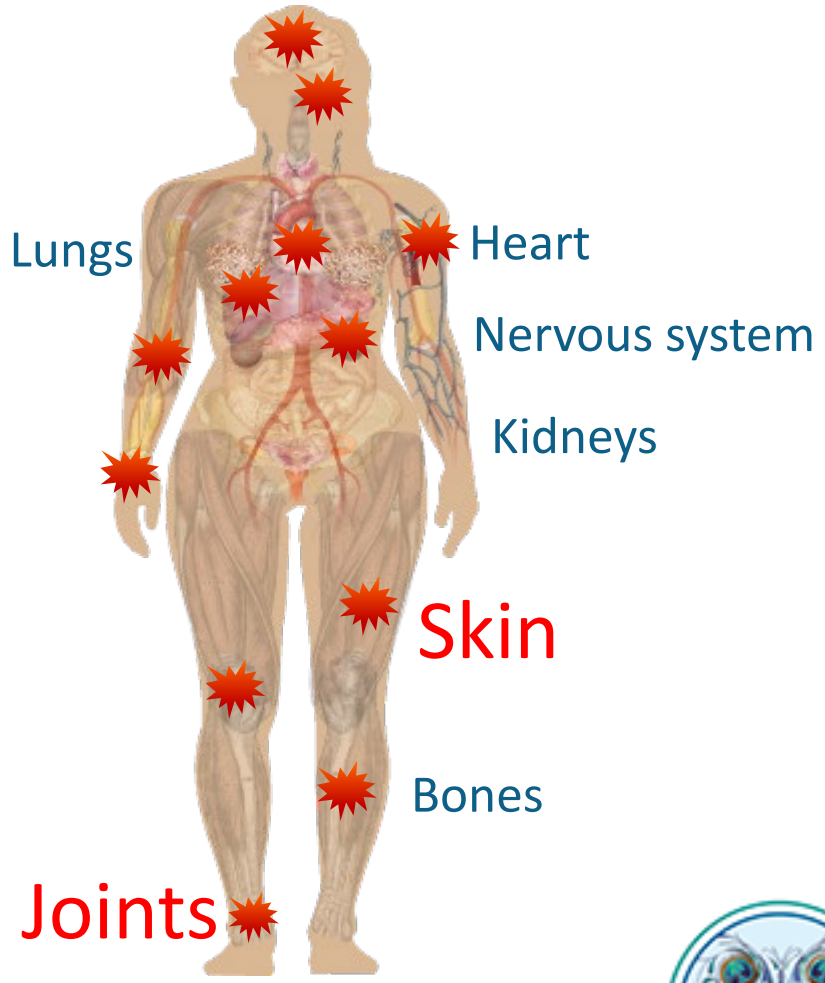
61.1%

Systemic Lupus Erythematosus (SLE)

Chronic, multi-system, inflammatory autoimmune disease. Disease mechanisms include autoantibody formation

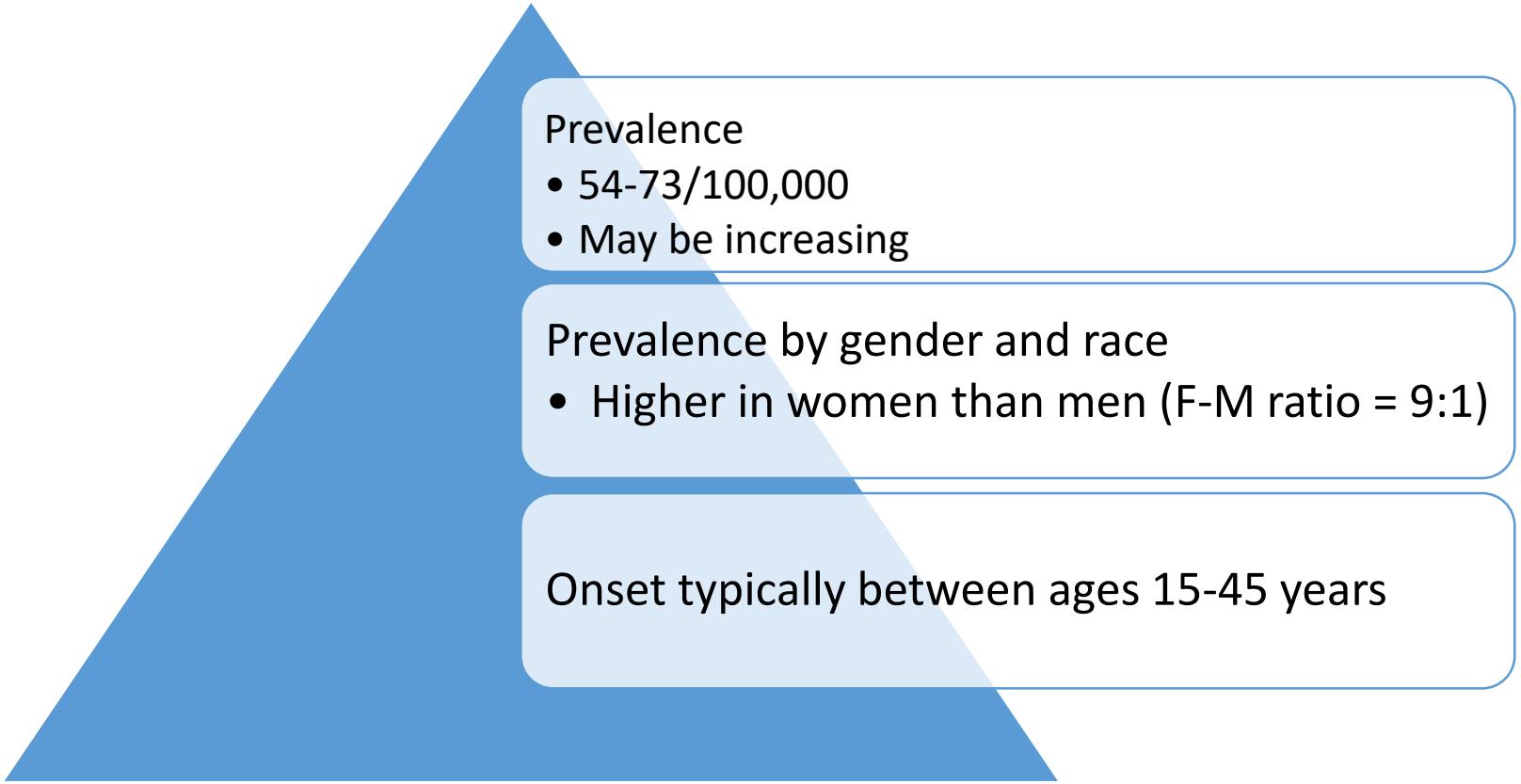
Characterized by flares, spontaneous remission, and relapses

May affect any part of the body, but often results in damage to:



Wallace DJ. Lupus: The Essential Clinician's Guide. New York, NY: Oxford University Press; 2014.

Epidemiology of SLE (United States)



Helmick CG, et al. *Arthritis Rheum.* 2008;58:15-25.
Lim SS, et al. *Arthritis Rheumatol* 2014;66:357-368.
Somers EC, et al. *Arthritis Rheumatol* 2014;66:369-378.
Ward MM. *J Womens Health* (Larchmt). 2004;13(6):713-8.

ACR-Defined SLE Prevalence—NY and SF County Populations

New York County	Prevalence*
Overall	62.2
Women overall	107.4†
White (non-Hispanic) women	64.3
Black (non-Hispanic) women	210.9
Asian (non-Hispanic) women	91.2
Hispanic women	138.3

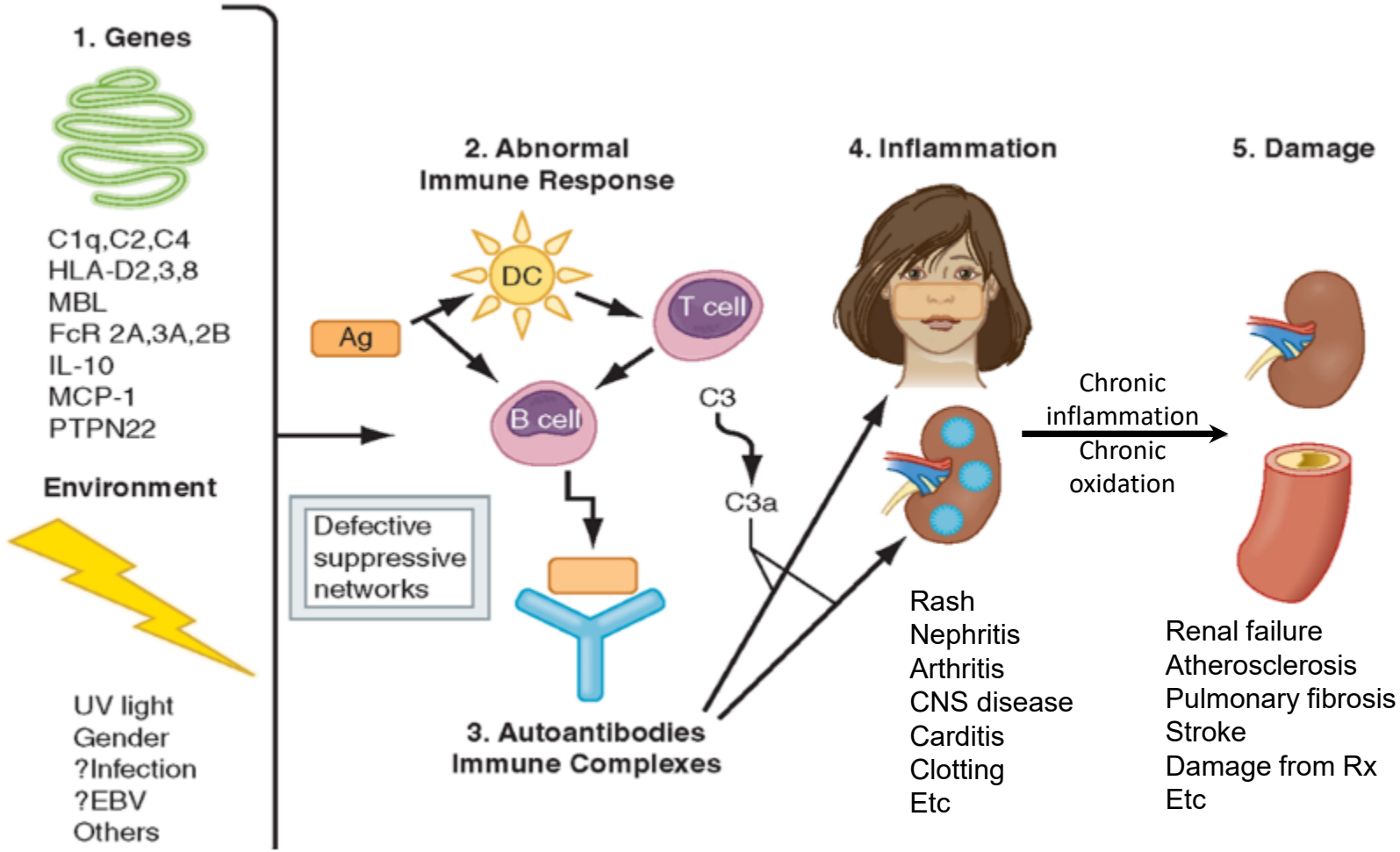
San Francisco County	Prevalence*
Overall	84.8
Women overall	155.6‡
White women	109.8
Black women	458.1
Asian/Pacific Islander women	149.7
Hispanic women	177.9

Racial and ethnic minorities are also at increased risk of developing severe manifestations following SLE diagnosis

*Age adjusted, per 100,000 person-years
† Ratio of women to men = 8.4:1
‡Ratio of women to men = 8.6:1

Izmirly PM, et al. *Arthritis Rheumatol.* 2017;69(10):2006-2017.
Dall'Era M, et al. *Arthritis Rheumatol*. 2017;69(10):1996-2005.

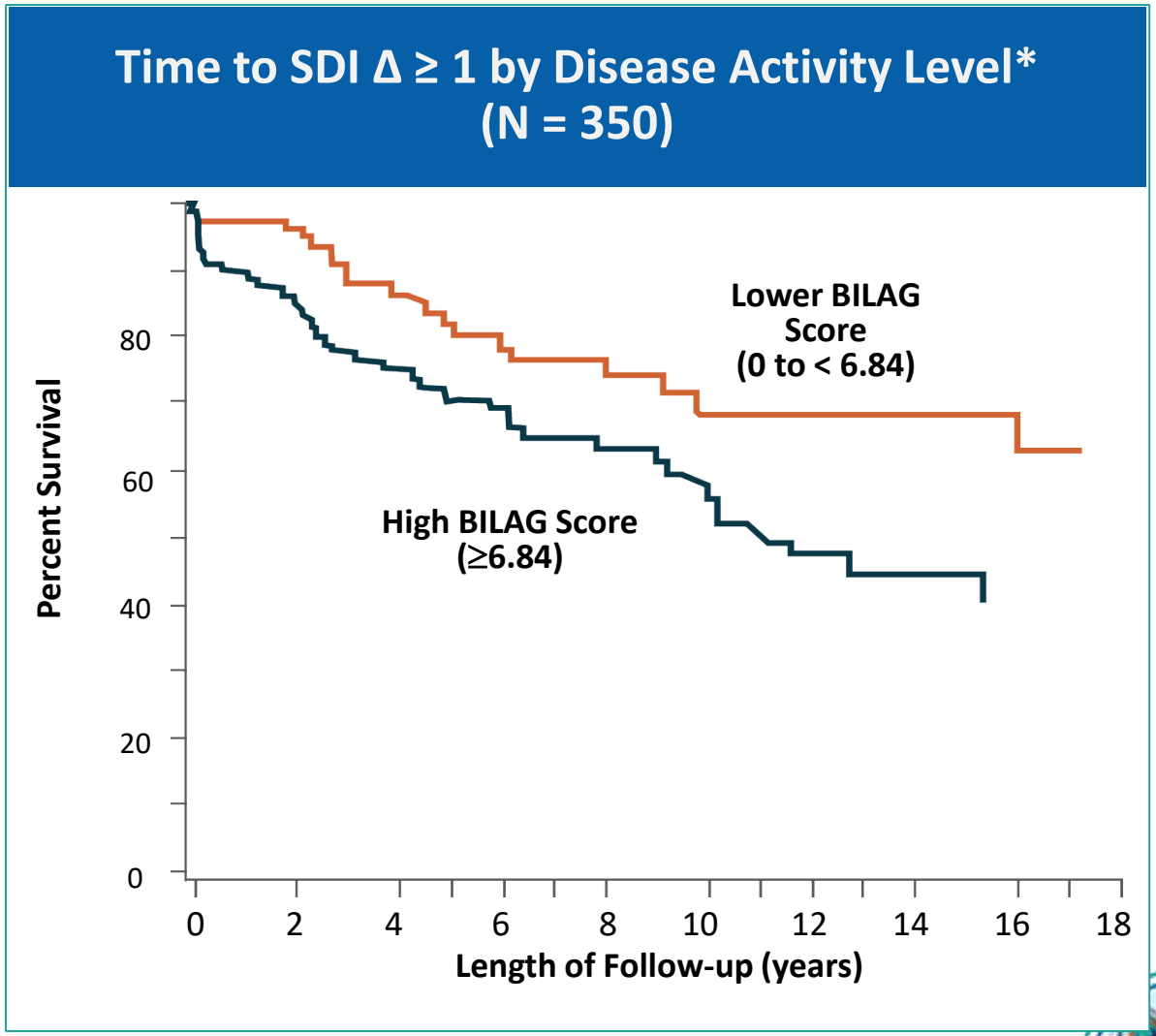
Disease Mechanisms in SLE



http://what-when-how.com/rheumatology/systemic-lupus-erythematosus-disorders-of-immune-mediated-injury-rheumatology-part-1/. Accessed April 20, 2018.

Disease Activity Predicts Organ Damage and Death

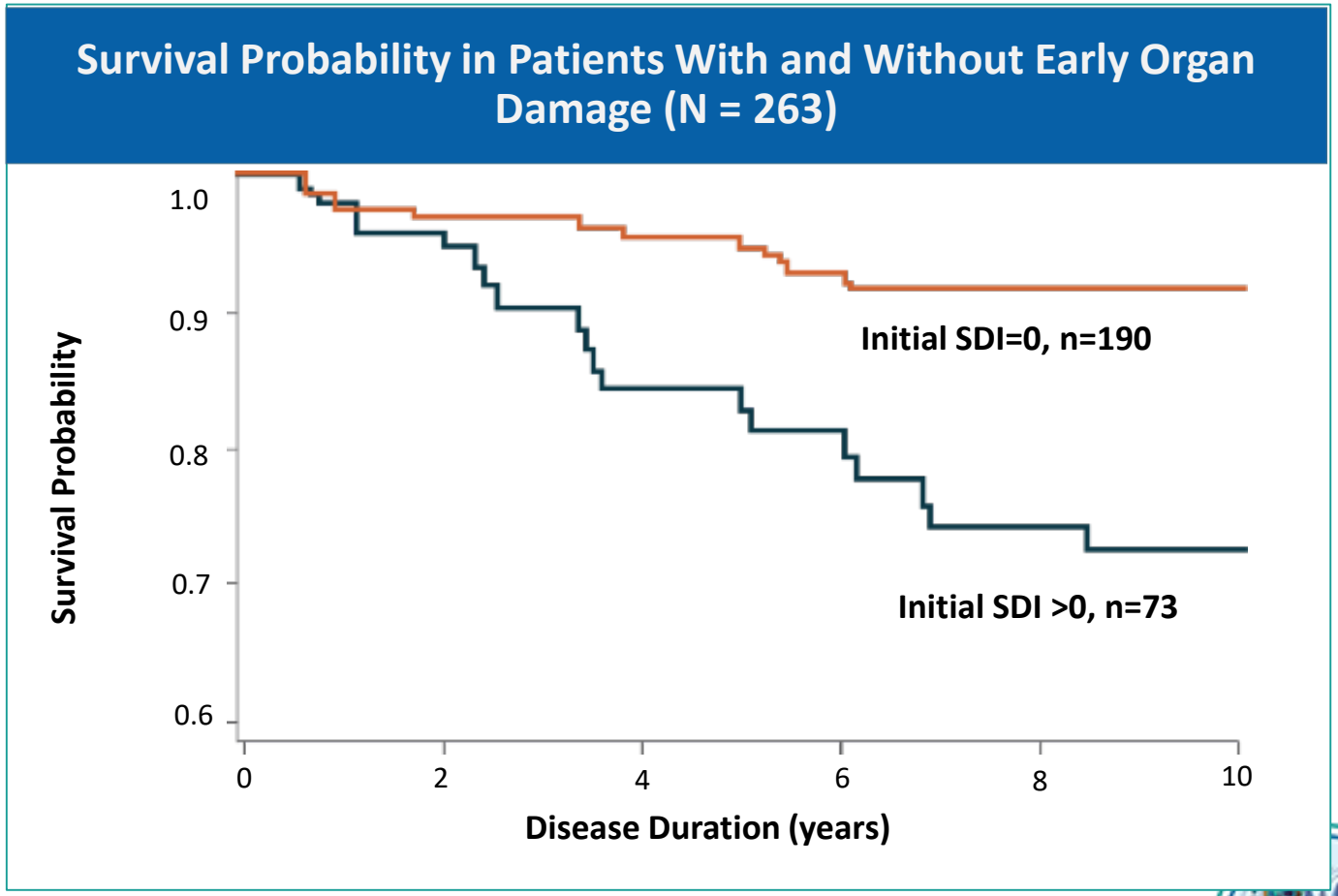
- ↑ disease activity is associated with ↑ risk of organ damage and death
- Each 1-point ↑ in BILAG score associated with:
  - 8% ↑ risk of any new organ damage
  - 11% ↑ risk of CV, pulmonary, or musculoskeletal damage
  - 15% ↑ mortality



*Assessed using BILAG score; high: ≥ 6.84; lower: 0 to < 6.84.
SDI = Systemic Lupus International Collaborating Clinics/American College of Rheumatology damage index.
Lopez R, et al. *Rheumatology*. 2012;51:491-498.

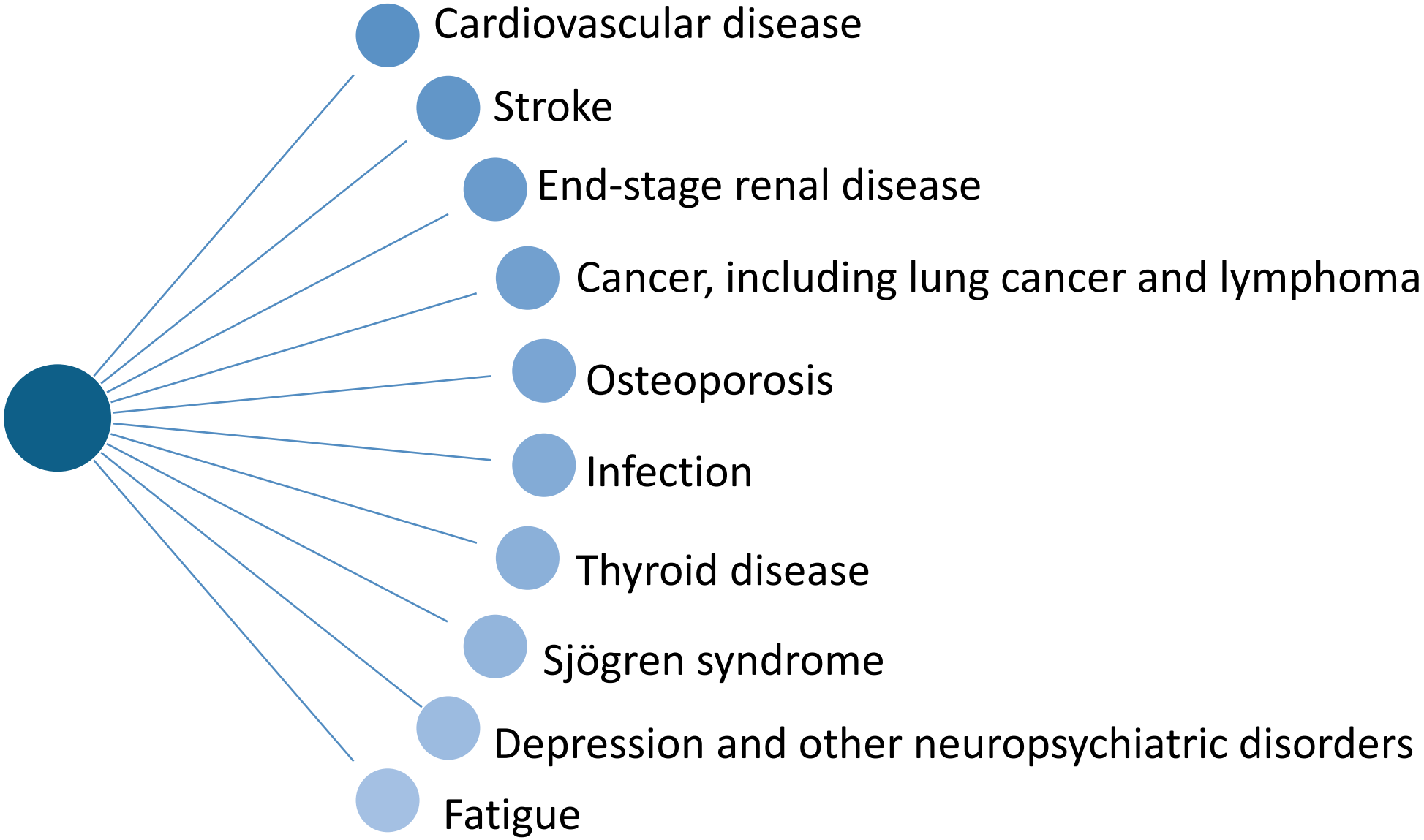
Early Organ Damage Is Associated With Reduced 10-Year Survival Rate

- Initial SDI assessment performed ≥ 6 months after study enrollment
- Early organ damage defined as initial SDI ≥ 1
- 25% of patients with early damage died within 10 years vs 7.3% with no early damage (P = 0.0002)



Rahman P, et al. *Lupus.* 2001;10:93-96.

SLE Comorbidities



CVD in Patients With SLE

- Coronary artery disease:[1]
  - 2-to 10-fold increased risk overall
  - > 50-fold increased RR in women ages 35-44 years vs age-matched controls (Framingham Heart Study)[2]
- Stroke: 1.8-to 2-fold increased risk overall, higher risk among younger women[1]
- Carotid ultrasound: plaque in 37% vs 15% in age-matched controls[3]

1. Schoenfeld SR, et al. *Sem Arthritis Rheum.* 2013; 43:77-95.
2. Manzi S, et al. *Am J Epidemiol.* 1997;1455:408–15.
3. Roman MJ, et al. *N Engl J Med*. 2003;349(:2399-2406.

Case 1: Meet Felicia

- 28-year-old, African American
- Mother of 2, Uber driver, uninsured
- Symptoms over the past few days
  - Fatigue
  - Arthralgia in multiple joints
  - Muscle aches
  - Painless oral ulcers
  - Swollen cervical lymph nodes
- 2 similar episodes, most recent 3 months ago
  - CBC & CMP then WNL
  - Symptoms resolved with OTC NSAIDs

Should We Be Thinking SLE?

Challenges With SLE Diagnosis

- Onset is insidious
- Many symptoms are nonspecific (eg, fatigue, joint pain)
- Symptoms and lab findings vary widely from one patient to the next
- Misdiagnosis is common
  - Note: A positive ANA is *just one indicator* for SLE
- Missed/delayed diagnosis is common
  - Mean delay in diagnosis: 2 years (longer in men, children, later-onset disease)

Gergianaki I, Bertsias G. *Front Med*. 2018;5:Article 161.

SLE: Common Clinical Manifestations

Manifestation	%	Manifestation	%
Arthritis	41.3	Serositis	12.9
Malar rash	26.4	Thrombocytopenia	9.5
Nephropathy	22.4	Oral ulcers	8.9
Photosensitivity	18.7	Thrombosis	7.2
Fever	13.9	Livedo reticularis	5.5
Neurologic	13.6	Discoid lesions	5.4
Raynaud's phenomenon	13.2	Myositis	4.0

Habif T. Clinical Dermatology, 6th ed. New York, NY: Elsevier, 2016.

SLE “Mimickers”

→ Dermatomyositis
→ Inflammatory myopathies
→ Juvenile idiopathic arthritis
→ Primary biliary cirrhosis
→ Autoimmune hepatitis
→ Rheumatoid arthritis
→ Sjögren syndrome
→ Systemic sclerosis
→ Autoimmune thyroiditis
→ Drug-induced lupus

Gergianaki I, Bertsias G. *Front Med*. 2018;5:Article 161.

SLE: Common Lab Findings

- ↑ ESR
- Anemia
- ↓ C3, C4
- Leukopenia
- Thrombocytopenia
- Hypergammaglobulinemia
- Proteinuria
- Anti-nuclear antibodies (ANA)
- Anti-dsDNA antibodies
- Antiphospholipid antibodies
- Anti-Smith antibodies

When considering cost-effective lab tests to order for Felicia to guide a diagnosis of SLE, which might you avoid?

Comprehensive lupus panel

ANA

Complement (C3, C4)

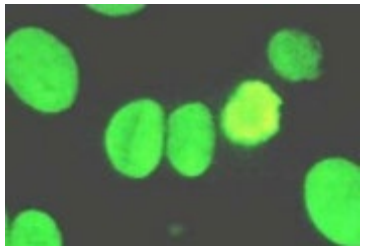
Urinalysis

CBC

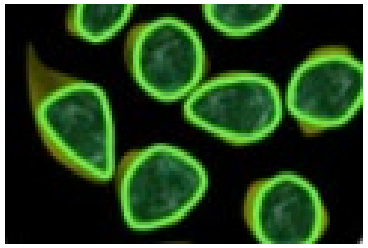
Interpreting a Positive ANA

- Reasons for a positive ANA
  - SLE
  - Other autoimmune disorders
  - Infections
  - Certain medications (eg, hydralazine)
- Titer and pattern are informative
  - Include in lab request
  - Titer of < 1:80 is NOT diagnostic

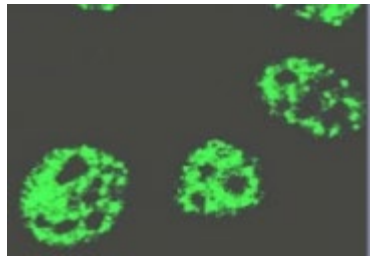
ANA Patterns and Diagnostic Implications for SLE



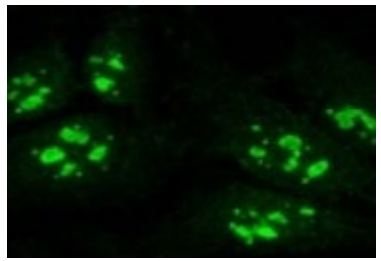
Homogenous
- Very common
- Not specific for a particular illness, but usually found in lupus



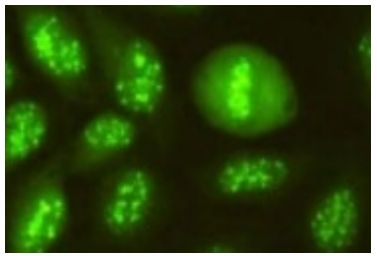
Peripheral (Rim)
- Uncommon
- Almost always indicates lupus



Speckled
- Common
- Nonspecific
- Usually not found in lupus; more common in mixed connective tissue disease, Sjögren's syndrome



Nucleolar
- Uncommon
- Associated with scleroderma
- Also found in healthy individuals



Centromere
- Uncommon
- Associated with scleroderma
- Also found in healthy individuals

Kumar Y, et al. *Diagnostic Pathol.* 2009;4:1-10.
Available at https://link.springer.com/content/pdf/10.1186%2F1746-1596-4-1.pdf. Accessed 9-23-19.

Felicia's Test Results

- ANA: positive (1:160)/homogeneous pattern
- C4: 10 mg/dL
  - Low (normal range: 16–48 mg/dL*)
- WBC count: 2400/μL
  - Low (normal range 5000/μL–10,000/μL*)
- All other tests are normal
  - CMP
  - Urinalysis
  - RF

*Normal ranges vary from one laboratory to another.

ACR Criteria for SLE

- Malar rash
- Photosensitivity
- Discoid rash
- Oral ulcers
- Arthritis
- Serositis
- Renal disorder
- Neurologic disorder
- Hematologic disorder
- ANA+
- Immunologic disorder

Diagnosis based on ≥ 4 of 11 criteria

Tan EM, et al. *Arthritis Rheum*. 1982;25:1271-1277.
Hochberg MC. *Arthritis Rheum.* 1997;40:1725.

SLICC Criteria for SLE

Clinical Criteria

- Acute cutaneous lupus
- Chronic cutaneous lupus
- Nonscarring alopecia
- Oral or nasal ulcers
- Joint disease
- Serositis
- Renal
- Neurologic
- Hemolytic anemia
- Leukopenia or lymphopenia
- Thrombocytopenia

Immunologic Criteria

- ANA
- Anti-dsDNA
- Anti-Sm
- Antiphospholipid antibodies
- Low C3, C4, CH50
- Direct Coomb's test

Diagnosis is based on ≥ 4 of 17 criteria, including

- **≥ 1 clinical and**
- **≥ 1 immunologic criterion**

OR

- **biopsy-proven lupus nephritis and positive ANA or anti-dsDNA**

SLICC = Systemic Lupus International Collaborating Clinics

Petri M, et al. *Arthritis Rheum.* 2012;64:2677-2686.

Does Felicia have SLE?

ACR Criteria

- Malar rash
- Photosensitivity
- Discoid rash
- ✓Oral ulcers
- ✓Arthritis
- Serositis
- Renal disorder
- Neurologic disorder
- ✓Hematologic disorder (leukopenia*)
- ✓ANA+
- Immunologic disorder

≥ 4 of 11 criteria

⇩

Provisional Diagnosis of SLE

⇩

Prompt referral to rheumatology for confirmation and initiation of SLE treatment

*less than 4000/μL, confirmed on 2 or more occasions.

Tan EM, et al. *Arthritis Rheum*. 1982;25:1271-1277.
Hochberg MC. *Arthritis Rheum.* 1997;40:1725.

Does Felicia Have SLE?
SLICC Criteria

Clinical Criteria

- Acute cutaneous lupus
- Chronic cutaneous lupus
- Nonscarring alopecia
- Oral or nasal ulcers
- ✓Joint disease
- Serositis
- Renal
- Neurologic
- Hemolytic anemia
- ✓Leukopenia or lymphopenia
- Thrombocytopenia

Immunologic Criteria

- ✓ANA
- Anti-dsDNA
- Anti-Sm
- Antiphospholipid antibodies
- ✓Low C3, C4, CH50
- Direct Coomb's test

Diagnosis based on ≥ 4 of 17 criteria, including

- **≥ 1 clinical and**
- **≥ 1 immunologic criterion**

⇩

Provisional Diagnosis of SLE

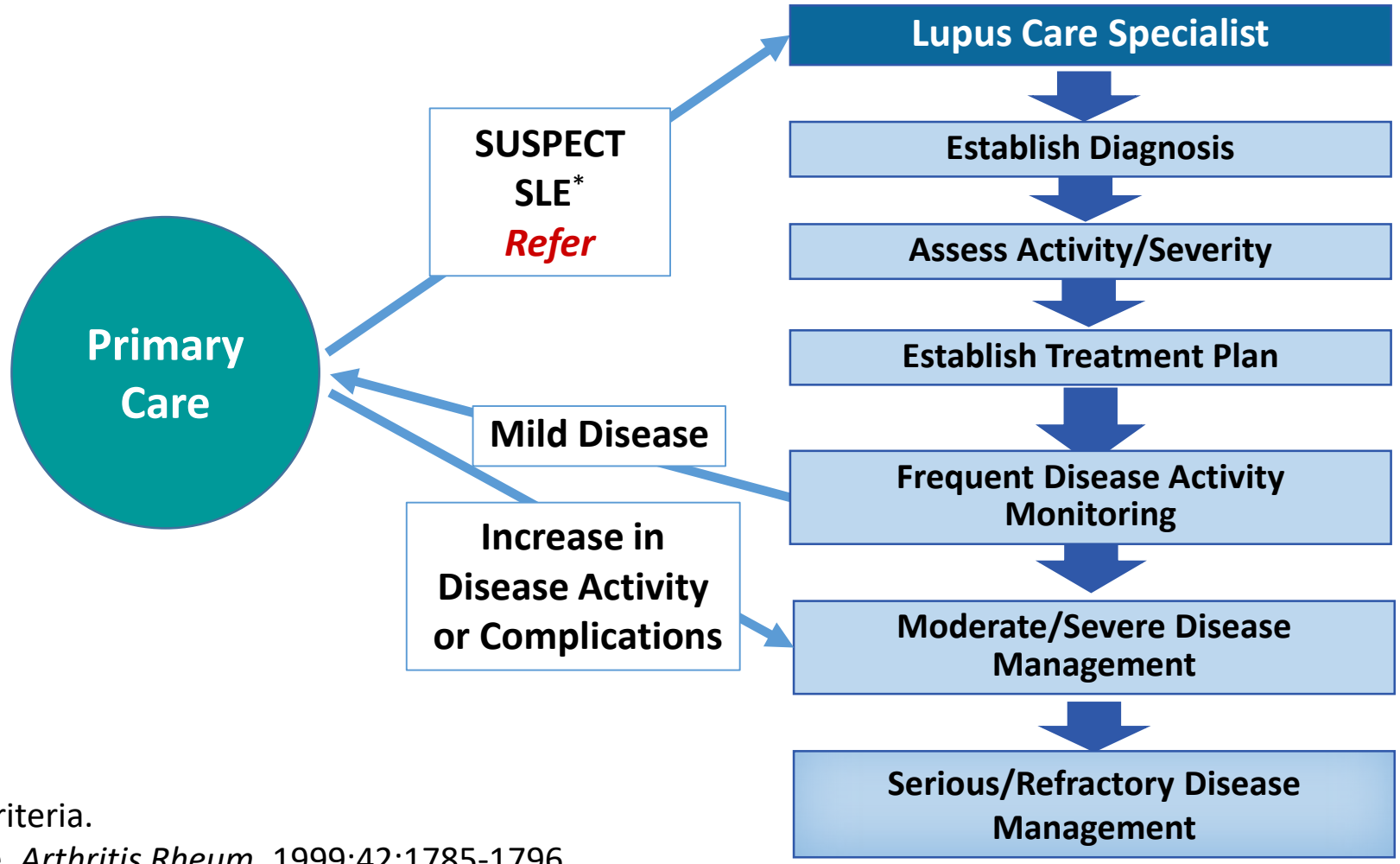
⇩

Prompt referral to rheumatology for confirmation and initiation of SLE treatment

SLICC = Systemic Lupus International Collaborating Clinics

Petri M, et al. *Arthrits Rheum.* 2012;64:2677-2686.

SLE: Roles of Primary and Specialty Care



*Based on ACR or SLICC criteria.

ACR Guideline Committee. *Arthritis Rheum*. 1999;42:1785-1796.
Lam N-C V, et al. *Am Fam Physician*. 2016;94(4):284-294.

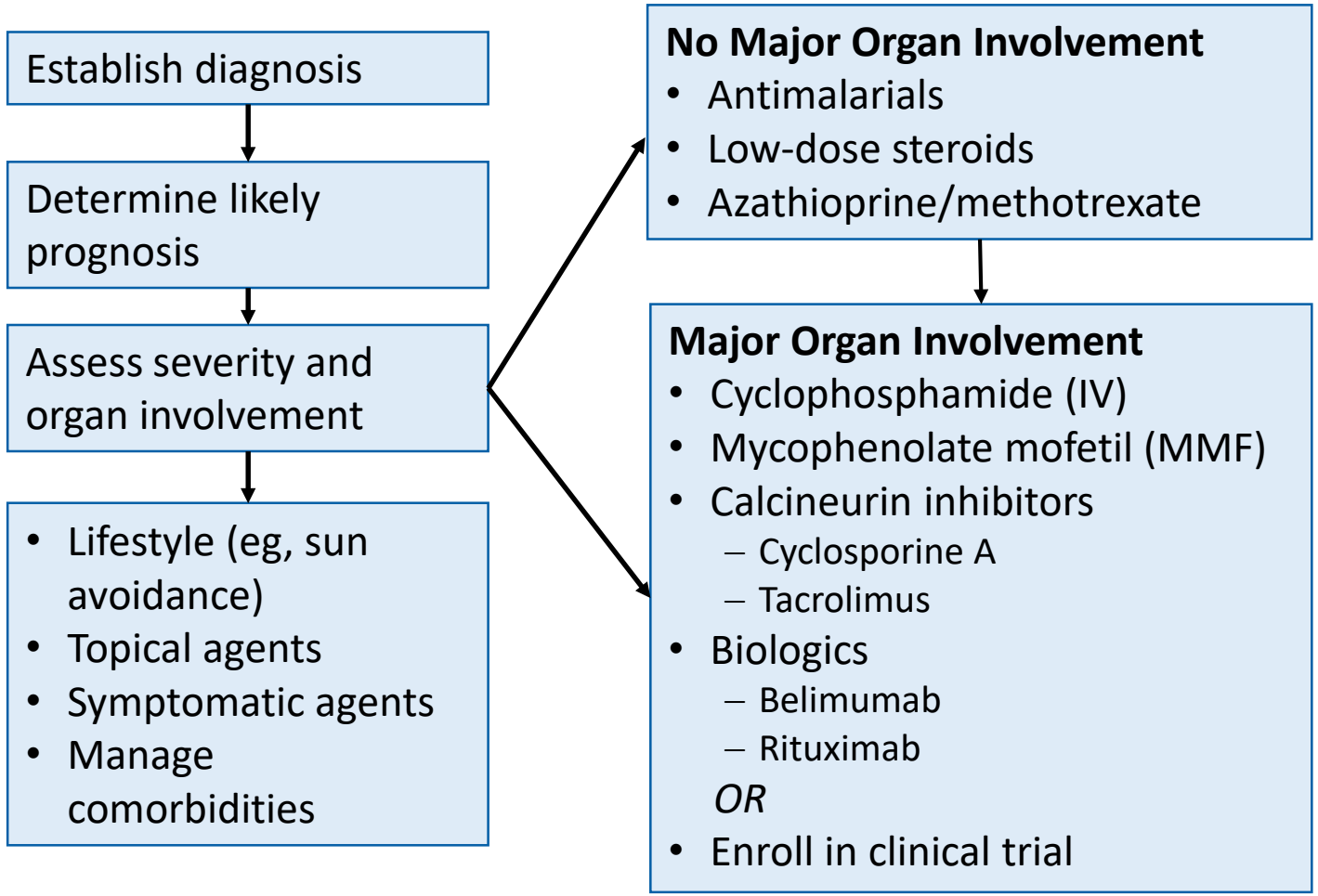
Role of the Rheumatologist

Confirmation of diagnosis	Assessment of disease activity and severity	General disease management
Management of uncontrolled disease	Management/ prevention of treatment toxicities	Other specific circumstances (eg, pregnancy, anti-phospholipid antibody syndrome, surgery)

Felicia's Rheumatology Visit

- Confirm diagnosis
- Assess disease severity
- Provide education
  - SLE disease process
  - Treatment options
  - Considerations for women of childbearing age
  - Importance of adherence
- Review treatment options
- Select treatment, establish initial treatment plan

SLE Treatment



- **FDA-approved**
  - Hydroxychloroquine
  - Corticosteroids
  - Belimumab
- **Other**
  - Azathioprine
  - Methotrexate (MTX)
  - Leflunomide (lupus arthritis)
  - Cyclophosphamide
  - MMF
  - Cyclosporine
  - Tacrolimus
  - Rituximab

Adapted from Reynolds JA, Bruce IN. Reports on the Rheumatic Diseases, Series 7 , Spring 2013, Topical Reviews No 2. Available at https://pdfs.semanticscholar.org/3228/162c0d9ebcca0bea69a7afd74a671a31bcf1.pdf?_ga=2.129441477.875880498.1572532198-2027238020.1562694808. Accessed October 31, 2019.

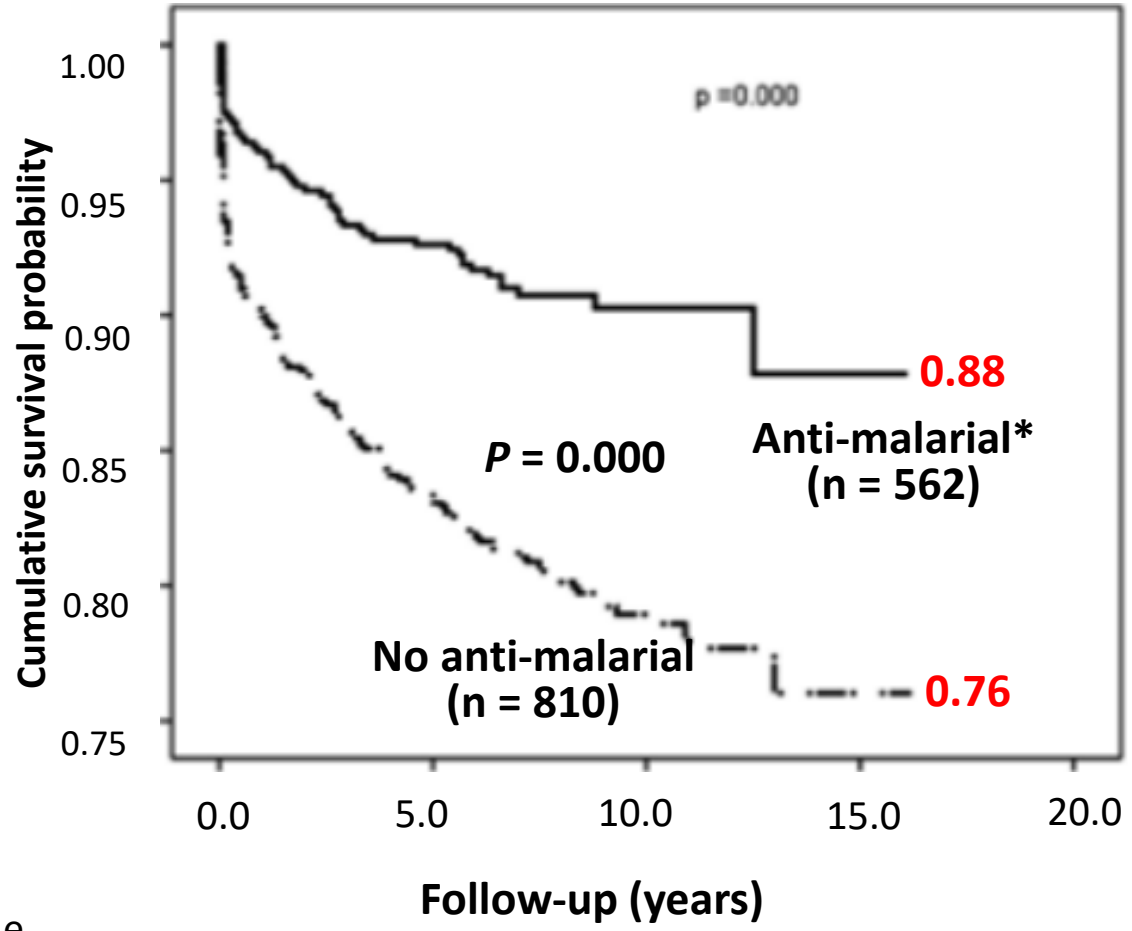
Medications for SLE

Medication	Uses	Delivery Route	Effects
Hydroxychloroquine (HCQ)	• SLE	PO	Multiple: immunomodulation without immunosuppression
Glucocorticoids	• SLE without major organ damage (low-dose) • Lupus nephritis (higher doses)	PO, IV (acute flare)	Inflammation
Immunosuppressants -Azathioprine -Cyclophosphamide -Methotrexate -MMF -Tacrolimus	• Lupus nephritis • Severe SLE	PO	Multiple effects
NSAIDs	• Lupus joint pain	PO	Analgesic, anti-inflammatory, antipyretic
Belimumab	• SLE; Skin, mucosal, serositis	IV, SC	B cell activity (anti-BLyS)
Rituximab	• Refractory severe SLE	IV	B cell activity (anti-CD20)

Maidhof W, et al. *PT*. 2012;37:240-246.
Lam NC, et al. *Am Fam Physician*. 2016;94:284-94.

Why HCQ?

Symptom Control and Reduced Mortality



*eg, hydroxychloroquine, chloroquine.

Wang F, et al. *Ann Rheum Dis*. 2019;78(8):e80.

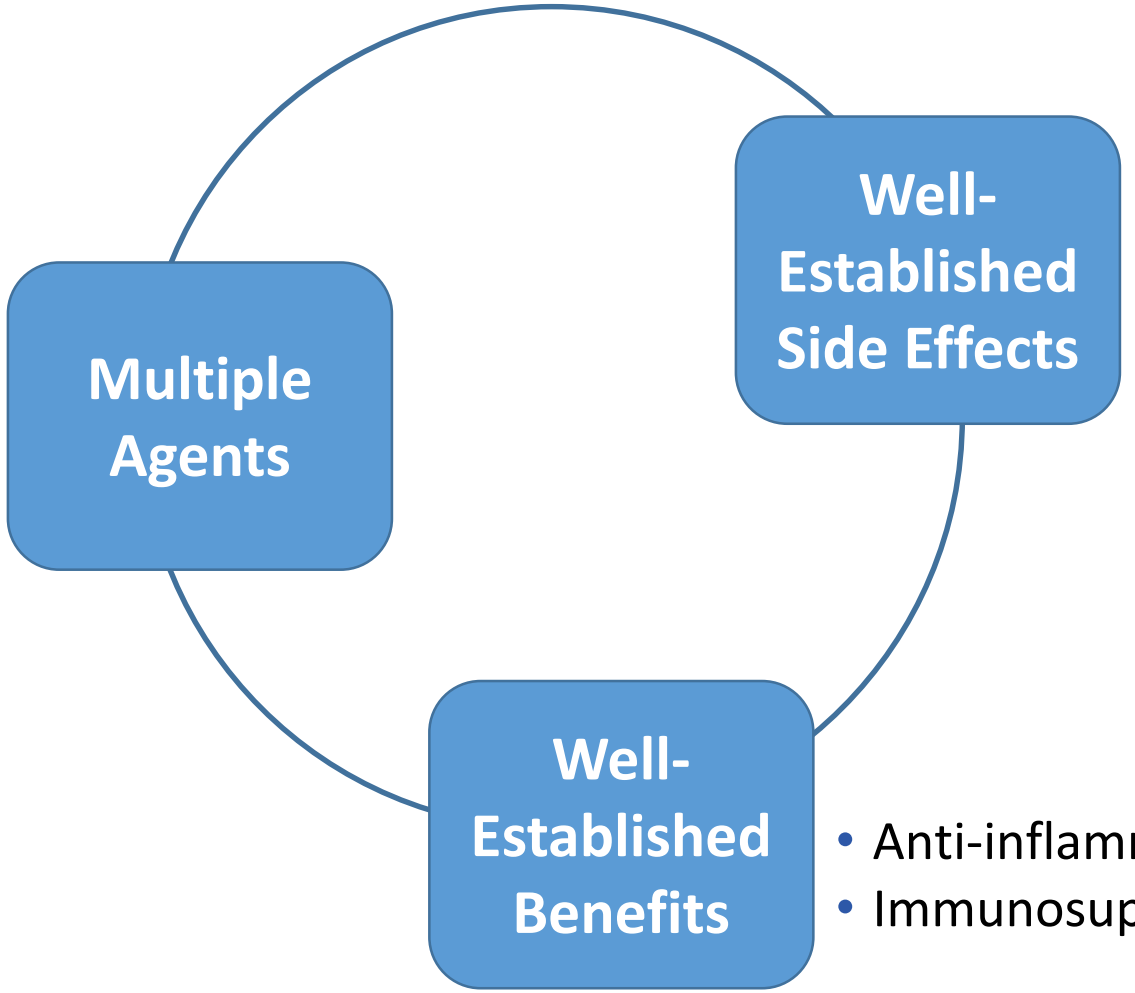
Considerations for Starting HCQ

Benefits
Effective for early mild-moderate disease
Improvements noted in 70% within 12 weeks
Associated with fewer thromboembolic events
Decreased damage scores over time
Decreased mortality rate
Decreased disease activity during pregnancy without fetal harm
Long-term protective effect for SLE-associated organ damage

Risks
GI side effects
Cardiac effects of QT prolongation
Myopathy/cardiomyopathy
Retinal damage with long-term use
Rash
Alopecia
G6PD deficiency (may be more common in Hispanics)

Broder A, et al. *J Rheumatol*. 2013;40(1):30-33. Shinjo K, et al. *Arthr Rheum*. 2010;62:855-862. Zheng ZH, et al. *Lupus*. 2012;21(10):1049-1056.

Corticosteroid Treatment



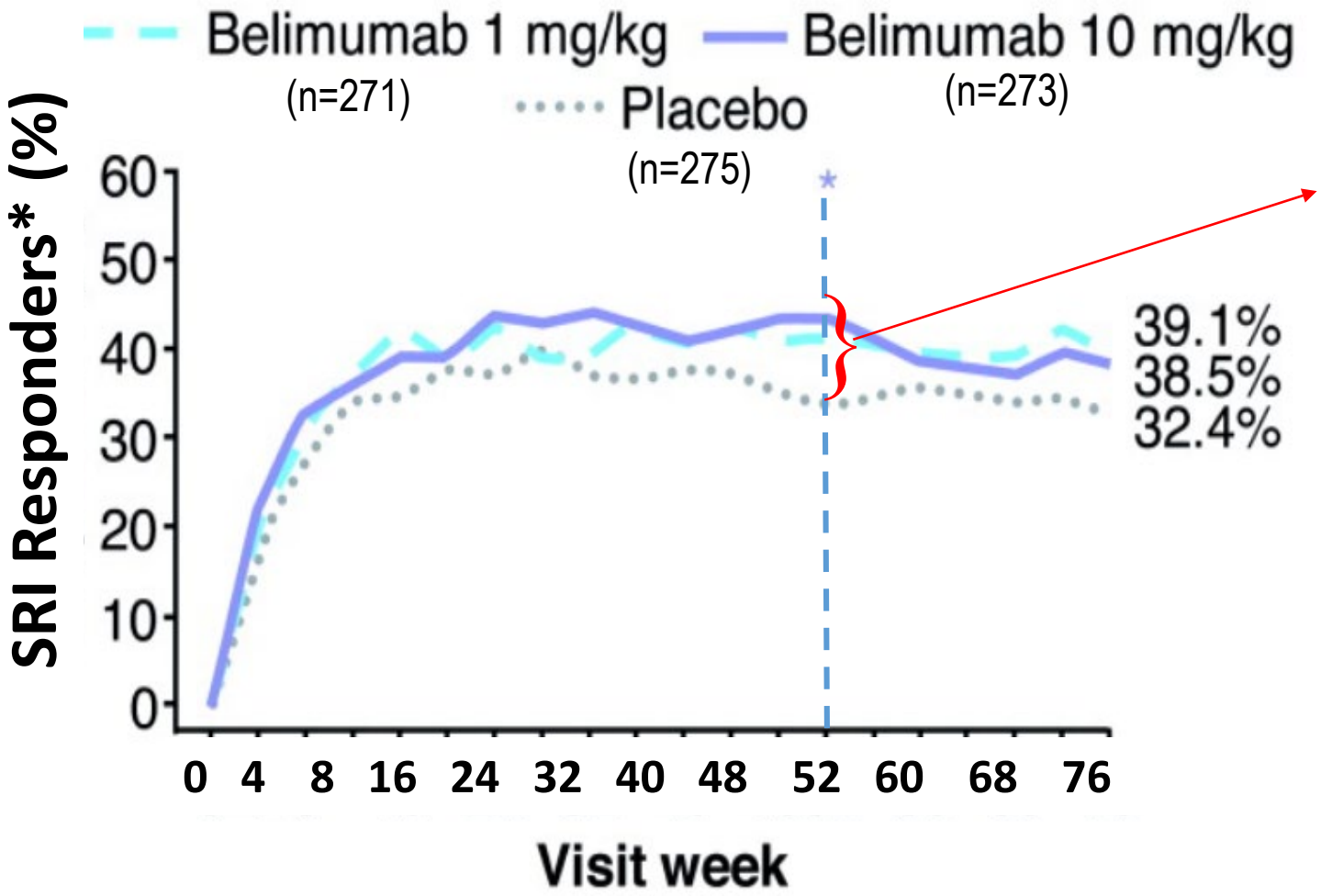
- Prednisone
- Methylprednisolone
- Hydrocortisone*

- CV events
- Diabetes mellitus
- Osteoporosis, osteonecrosis
- Infections
- Glaucoma, cataracts
- Psychological disorders

- Anti-inflammatory
- Immunosuppressive

*In patients with adrenal insufficiency.

Belimumab: BLISS-76 Results



SRI responders at week 52
- 10 mg/kg: 43.2% (*P* = 0.017)
- 1 mg/kg: 40.6% (*P* = 0.089)
- Placebo: 33.5%

Safety Findings

Adverse events, serious adverse events, laboratory abnormalities, and infections occurred at similar rates across groups.

*Primary efficacy endpoint: Responders on the Systemic Lupus Erythematosus Responder Index (SRI).

Furie R, et al; BLISS-76 Study Group. *Arthritis Rheum*. 2011;63:3918-30.

Medication Non-Adherence Is a Problem in SLE

- US Medicaid data, 2000-2006[1]
  - New users of HCQ or immunosuppressive agents
  - Non-adherence rates (based on proportion of days covered < 80%)
    - 79% of HCQ users
    - 83% of immunosuppressant users
  - Nonadherence ↔ higher risks of ED visits, hospitalizations
- 2017 systematic review[2]
  - Overall up to 33% of patients discontinue treatment after 5 years

Method for Assessing Nonadherence	Percent Nonadherent	Medication
Electronic monitoring device[3]	75	Not specified
Pharmacy refill data[4,5]	51, 43	HCQ, other immunosuppressants
Self-report[6,7]	48, 68	HCQ, MTX, MMF

1. Feldman CH, et al. *Arthritis Care Res.* 2015.;67:1712-21.
2. Mehat P, et al. *Arthr Care Res.* 2017;69:1706-1713.
3. Marengo MF, et al. *Lupus.* 2012;21:1158–65.
4. Koneru S, et al. *J Clin Rheumato.l* 2008;14:195–201.
5. Koneru S, et al. *Arthritis Rheum.* 2007;57:1000–1006.
6. Oliveira-Santos M, et al. *Lupus.* 2011;20:320–329.
7. Abdul-Satar AB, et al. *Rheumatol Int*. 2014;35:1045–1051.

Why Do Patients Not Take Their Medications?

- Fear of potential side effects or becoming dependent on the medication
- Cost/lack of insurance coverage
- Misunderstanding of what to expect (or not)
- Too many medications, too many pills, or too many doses/day
- Lack of symptoms
- Depression
- False hope that the disorder is gone

Helping to Ensure Medication Adherence in SLE

Patient education before starting treatment is key

- Convey benefits vs risks
- Emphasize the importance of achieving the best control possible to optimize short and long-term outcomes

Consider strategies known to improve adherence in chronic disease

- Motivational interviewing[1]
- Teach-back method[2]
- Shared decision-making[3]

1. Zomahoun HTV, et al. *Int J Epidemiol.* 2017;46:589-602.
2. Ha Dinh TT, et al. *JBI Database System Rev Implement Rep.* 2 2016;14:210-47.
3. Lofland JH, et al. *Patient Prefer Adherence*. 2017;11:947-58.

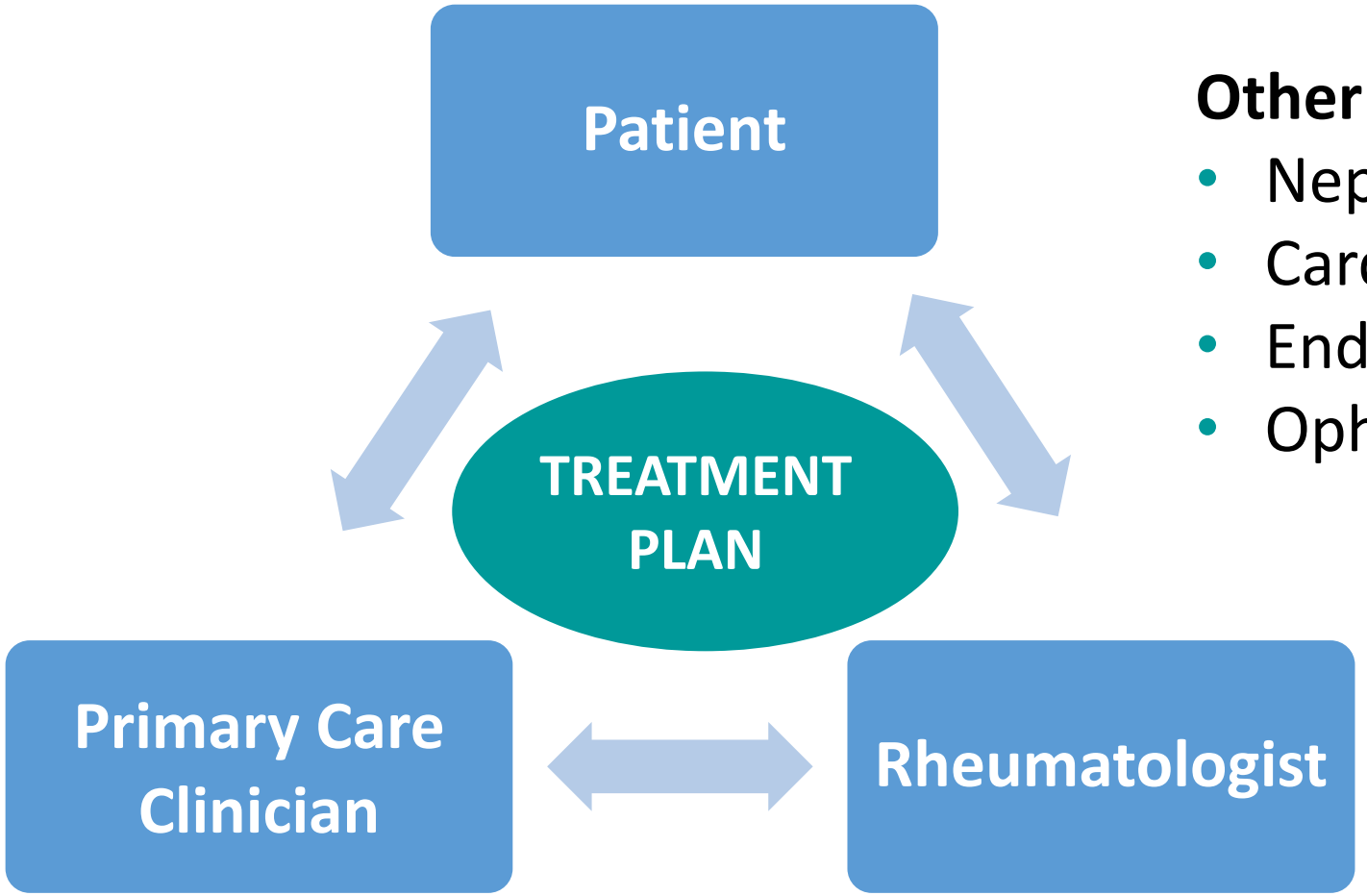
Felicia: Next Steps

- Treatment selected
  - Acute management: Prednisone, 10 mg/d short term*
  - Maintenance treatment: HCQ 200 mg/day (weight-based)
  - Sunscreen (broad-spectrum*/SPF $\geq$ 30)[1,2]
- Baseline tests
  - Bone density
  - EKG
  - Chest x-ray
  - Serum lipids
  - TSH
  - Ophthalmology exam
- Education to reinforce need for adherence to treatment and follow-up appointments

*The PCP can prescribe a corticosteroid with a presumptive SLE diagnosis

[1]Kuhn A, et al. *J Acad Dermatol.* 2011; 64(1)37-48.
[2]Lupus Foundation of America. 2016. https://www.lupus.org/blog/sunscreen-tips.

Managing and Monitoring Patients With SLE



Other Specialists As Needed

- Nephrologist
- Cardiologist
- Endocrinologist
- Ophthalmologist

Rheumatology Care: SLE Monitoring

Lifelong monitoring is crucial for limiting flares and associated damage

- Complete ROS of potentially affected organs/systems
- Symptoms (eg, fever, weight change, fatigue)
- Lab: CBC, platelets, urine protein: creatinine ratio, UA
- Adherence/side effects with medications

Follow-up

- Active disease: Q2-3 weeks
- Quiescent disease: Q6 months
- As needed for flares, drug monitoring, etc

ACR Guideline Committee. *Arthritis Rheum*. 1999;42:1785-1796.
Hahn BH, et al. *Arthritis Care Research*. 2012;64(6):797-808.

Primary Care: General SLE Management

Education, counseling, support, reinforce rheumatologists' messages
Lifestyle: exercise, diet, smoking cessation
Sunscreen (broad spectrum*/ $\geq$ 30 SPF)[1,2]
Vaccinations to help avoid infections
Health maintenance: routine gynecologic visits, dental care, ophthalmology exams†
Monitoring for lupus comorbidities
Frequency of follow-up if stable: Q6 months; stagger w/Q6-month rheumatology visits

*Defined as a sunscreen that blocks both UVA and UVB irradiation; †Especially for patients on HCQ or CS.

[1]Kuhn A, et al. *J Acad Dermatol.* 2011; 64(1)37-48.
[2]Lupus Foundation of America. 2016. https://www.lupus.org/blog/sunscreen-tips.

Labs Commonly Ordered for Lupus Monitoring in Primary Care

- CBC: particularly for leukopenia, anemia, thrombocytopenia
- CMP: particularly for renal and hepatic function
- ESR and CRP
  - Inflammation markers correlate with flares/disease activity
- dsDNA, C3/C4 levels
  - Levels correlate with flares
- Periodic urine protein: creatinine measurement
- ANA, anti-Sm have NO utility for monitoring

Case 2: Meet Trina

- 38-year-old Asian-American woman diagnosed with SLE 5½ years ago
- Currently on HCQ 400 mg/day
- Had been doing well; last routine visit with her rheumatologist was 4 months ago
- Reports extreme fatigue and intermittent inspiratory right-sided chest pain
- Worried about a flare because she and her husband had been trying to get pregnant

Trina: Physical exam

- BMI = 26 kg/m^2
- Temperature: 98.9° F
- Blood pressure = 140/85 mmHg
- Heart rate: 106 bpm
- Friction rub heard on auscultation

What is the best next step for Trina?

Add methotrexate

Switch to azathioprine

Start a short course of low-dose oral CS

Consult with her rheumatologist

Primary Care Visit

- Trina's new symptoms could indicate a lupus flare
- Check adherence
  - Consider checking medication refills
  - Consider testing HCQ levels
- Potential labs:
  - CBC, CMP, ESR
  - ESR/CRP
  - Complement levels
  - D-dimer
  - EKG
- If provisional diagnosis is SLE flare, start a short course of prednisone

Follow-up 2 Weeks Later

- Rash has improved
- Pleuritic chest pain remains
- New symptom: joint pain
- Labs significant for:
  - Elevated dsDNA, ESR, CRP
  - Low C3/C4
  - Urinalysis: no protein

Time to refer for rheumatology care

Conversation With the Rheumatologist

- Assess adherence to HCQ
  - Pregnancy-related issues
- MMF – may cause fetal harm (boxed warning)
- Azathioprine
  - Pregnancy category D
  - Increasing data to support safety in pregnancy
- Cyclosporine
  - Pregnancy category C
- Biologics
  - Belimumab – risks in pregnancy uncertain
  - Rituximab – can cause fetal harm

Primary Care Monitoring for Trina

General Care	Because of repetitive prednisone bursts, monitor bone mineral density
	Routine ophthalmology exams
	Consider vitamin D and Ca^{2+} supplementation (debated)
	Recommend broad-spectrum sunscreen (SPF $\geq$ 30)
	Depression
	Fatigue
Cardiovascular Issues	Perform out-of-office BP monitoring (home or automated BPM)
	Nonpharmacologic (eg, diet, exercise, weight management)
	Pharmacologic–lipid management, optimum BP

Ongoing Care and Monitoring of SLE

- All patients require ongoing education, counseling, support
- Patients with mild disease can be monitored in primary care
- *Lifelong monitoring* is crucial for limiting flares and associated damage
  - History: fever, weight change, fatigue, rash, alopecia, chest pain, joint pain/swelling, adherence to treatment, side effects from treatment
  - Physical exam: joints, skin, mucous membranes, fundus, edema
  - Labwork: CBC, platelets, creatinine, urinalysis
- Frequency of monitoring depends on SLE activity, severity, extent, response to treatment, type of treatment

ACR Guideline Committee. *Arthritis Rheum*. 1999;42:1785-96.

Key Messages

- Lupus manifests in multiple ways and disease progression is heterogeneous
- Well-coordinated multidisciplinary health care is essential
- Education/communication is needed to support adherence to medication and other interventions
- Goals of treatment are disease remission or low-disease activity
- Patient communication is critical
  - Discuss treatment efficacy/safety
  - Assess adherence: Medications that are not taken will not work
  - Monitor possible side effects
  - Pregnancy may impact the treatment plan
  - Manage the whole patient
- All patients require lifelong monitoring

Posttest Question #1: Which of the following anti-nuclear antibody (ANA) patterns almost always indicates systemic lupus erythematosus (SLE)?

Nucleolar

Peripheral or rim

Speckled

I’m not sure which is correct.

Posttest Question #2: On the basis that American College of Rheumatology criteria are met, which of the following patients would you refer to a rheumatologist for confirmation of an SLE diagnosis?

A patient with joint disease, malar (butterfly) rash, and a positive ANA

A patient with serositis, lymphopenia, and low complement (C3) levels

A patient with oral ulcers, joint disease, serositis, and leukopenia

I'm not sure which is correct.

Just 2 more questions, almost done!

Posttest Question #3: In a study by Manzi and colleagues, how much more likely were women ages 35-44 years with SLE to have a myocardial infarction compared to age-matched controls?

2 times

5 times

25 times

50 times

Posttest Question #4: In the BLISS-76 clinical trial of belimumab, what percentage of patients on the 10 mg/kg dose were responders on the Systemic Lupus Erythematosus Response Index (SRI)?

28.6%	**A**
38.5%	**B**
44.8%	**C**
61.1%	**D**

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