

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

يَا أَيُّهَا الَّذِينَ آمَنُوا إِذَا نُودِيَ لِلصَّلَاةِ مِنْ يَوْمِ الْجُمُعَةِ فَاسْعَوْا  
إِلَى ذِكْرِ اللَّهِ وَذَرُوا الْبَيْعَ ۚ ذَٰلِكُمْ خَيْرٌ لَكُمْ إِنْ كُنْتُمْ تَعْلَمُونَ

O you who believe!  
when the call is made  
for prayer on Friday,  
then hasten to the  
remembrance of  
Allah and leave off  
trading; that is better  
for you, if you know

Quran 62:9

## Motto

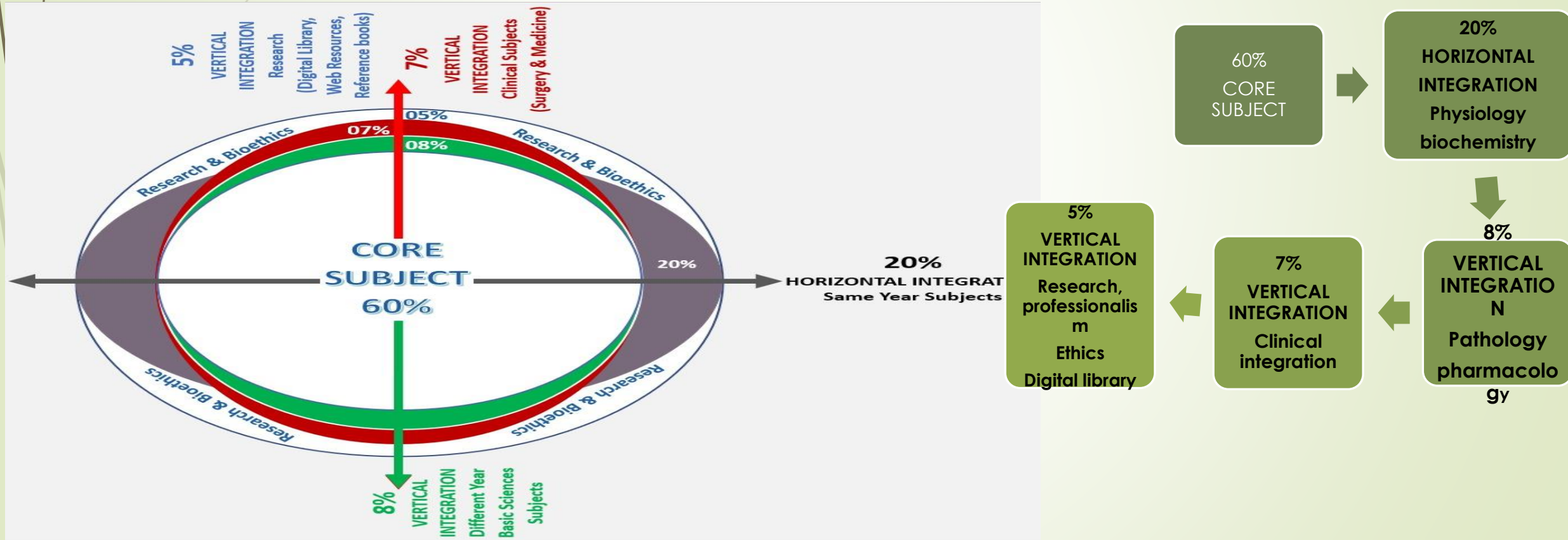


## Vision

- To impart evidence based research oriented medical education
- To provide best possible patient care
- To inculcate the values of mutual respect and ethical practice of medicine



# Professor Umar Model of Integrated Lecture





# RHEUMATOLOGY

## LECTURE:1



# “Overview of Rheumatological Disorders”

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**FCPS (Medicine), FCPS (Rheumatology)**

**Rheumatologist, Rawalpindi Medical University**

# Learning Objectives

At the end of this session students will be able to learn:

- How to diagnose rheumatological disorders on the basis of history and examination
- Rheumatological Investigations
- Guidelines and recent advances



# Rheumatological Diseases

- Joint Diseases (Arthritis)
- Soft tissue Rheumatism
- Systemic Diseases (Auto-immune/Vasculitis)
- Bone Disorders





# Core Concept

# History



➡ Is it Arthralgia or Arthritis ?

# History

- 
- A solid red arrow pointing to the right, located at the top left of the slide.
- ➡ Pain
  - ➡ Swelling
  - ➡ Stiffness
- 
- A series of thin, curved, light brown lines that sweep from the left side of the slide towards the center, creating a sense of movement or a decorative border.

# History



➡ Is it Monoarthritis/Oligoarthritis/Polyarthritis ?



# History



➡ Is it Mechanical or Inflammatory pain ?

# Examination

- Look (swelling, redness, deformity)
- Feel (painful, fluid )
- Move (restricted range of motion)

# Examination



## The Clinical Spectrum of RA



**Early PIP swelling**



**Active with  
some deformity**



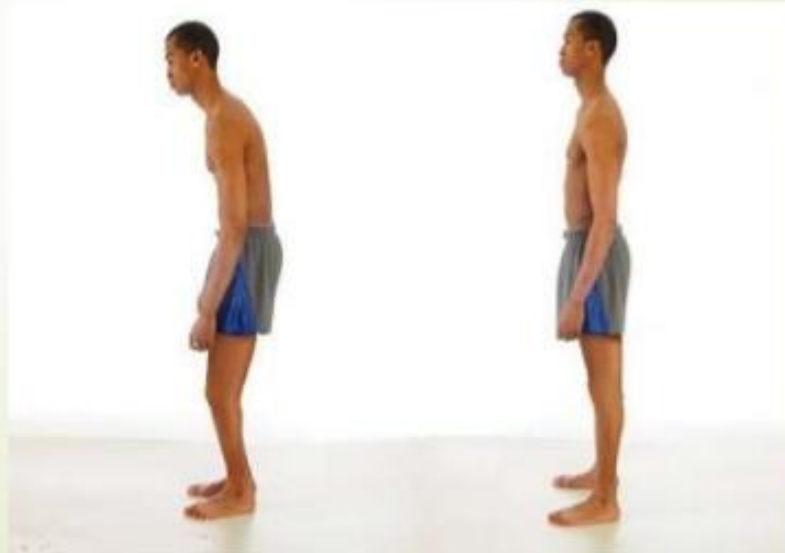
**Late-stage  
deformities**

Images courtesy of J. Cush, 2005.

# Examination

## Question mark posture

**Question mark posture, or suppliant posture** -  
loss of lumbar lordosis, fixed kyphosis,  
compensated extension cervical spine, protruberant  
abdomen.





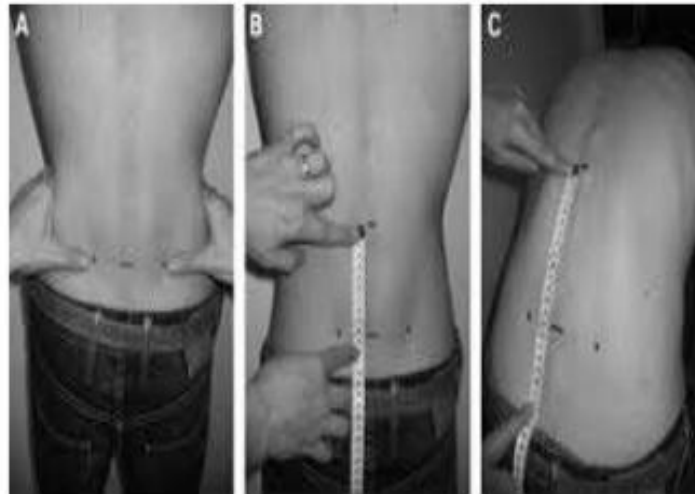
# Examination



## Modified Schober test



- In this test marks are made 5 cm below and 10 cm above the sacral dimples.
- The distance between these marks should increase from 15 cm to at least 20 cm with lumbar flexion.
- The distance less than 5 cm is abnormal.



# Systemic Examination

- RA (ILD, amyloidosis, felty's syndrome, mononeuritis)
- SPA (uveitis, psoriasis)
- SLE (multi-system)

# Investigations

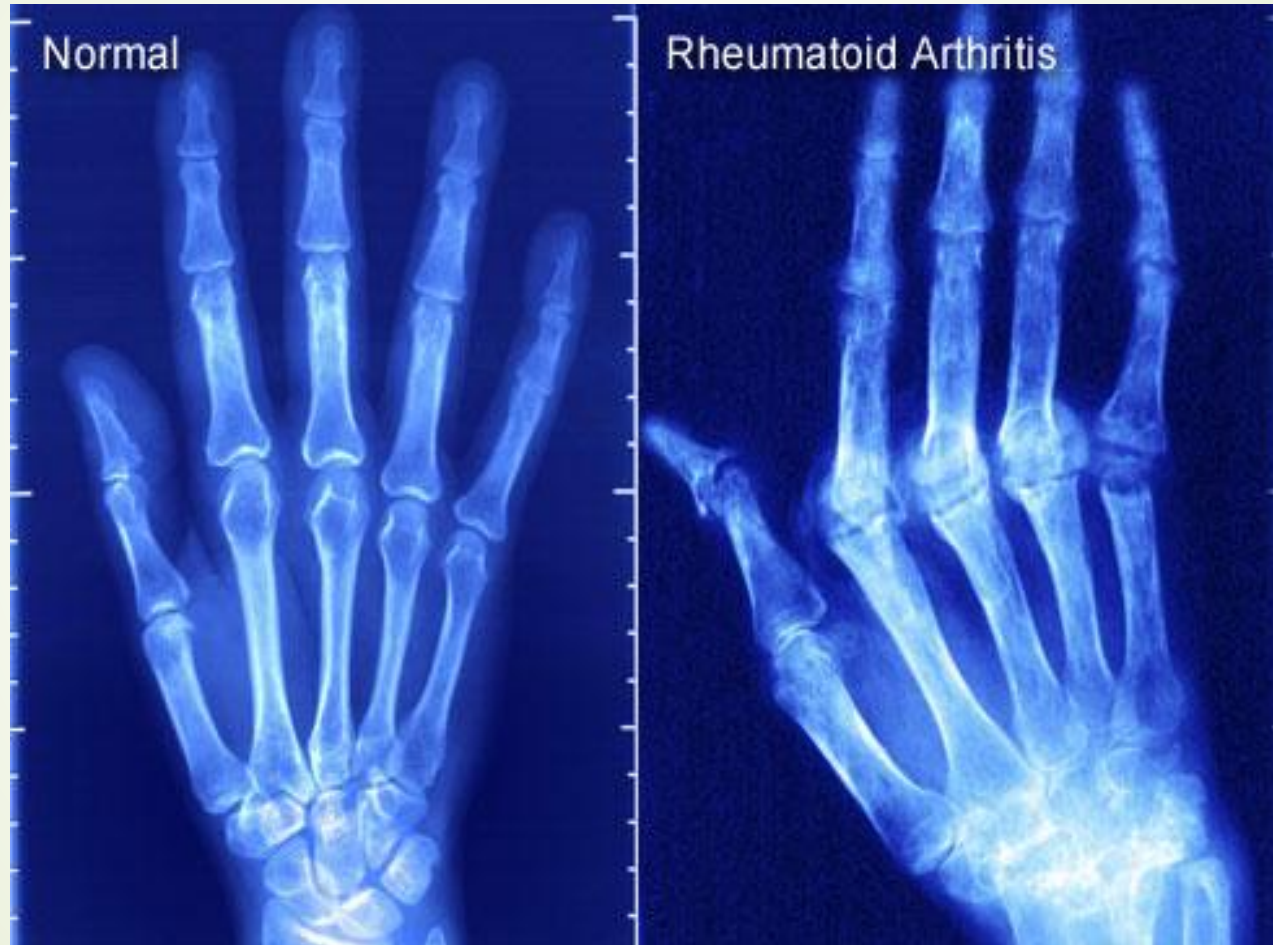
- Imaging modalities (x-rays, MRI, MSUS)
- Synovial fluid analysis
- Serological tests

# Radiographs

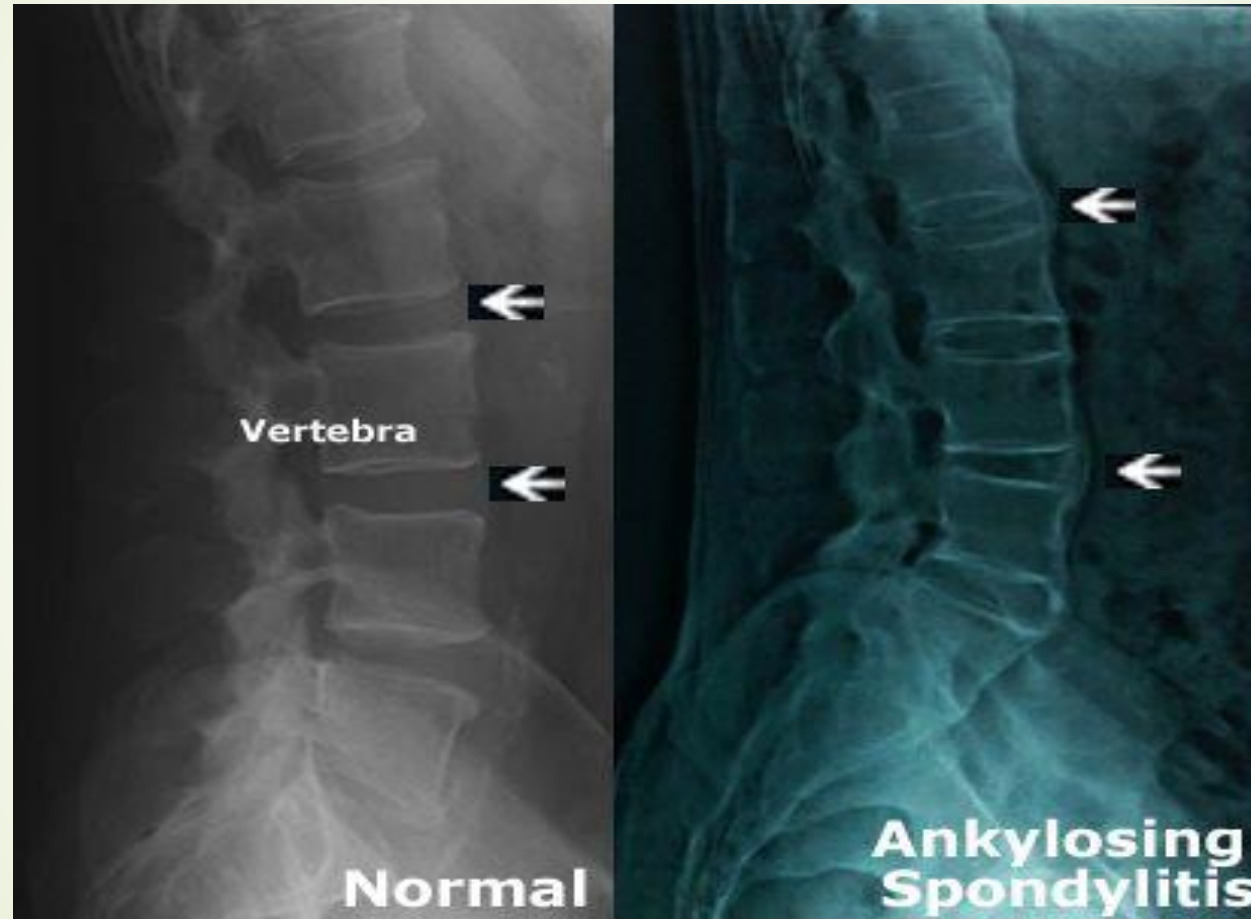




# Radiographs



# Radiographs



There is a ligament (arrow head) in front of the vertebrae. It is flexible & not normally seen in a normal person. It gets calified, thick in Ankylosing Spondylitis & is seen.

Dr. S. Akerkar <http://doctorakerkar.wordpress.com/>

# Radiographs



# MRI



- Assessment of inflammatory lesions of joints (synovial thickening, effusion, cartilage)
- Assessment of bone lesions (bone edema, erosions)

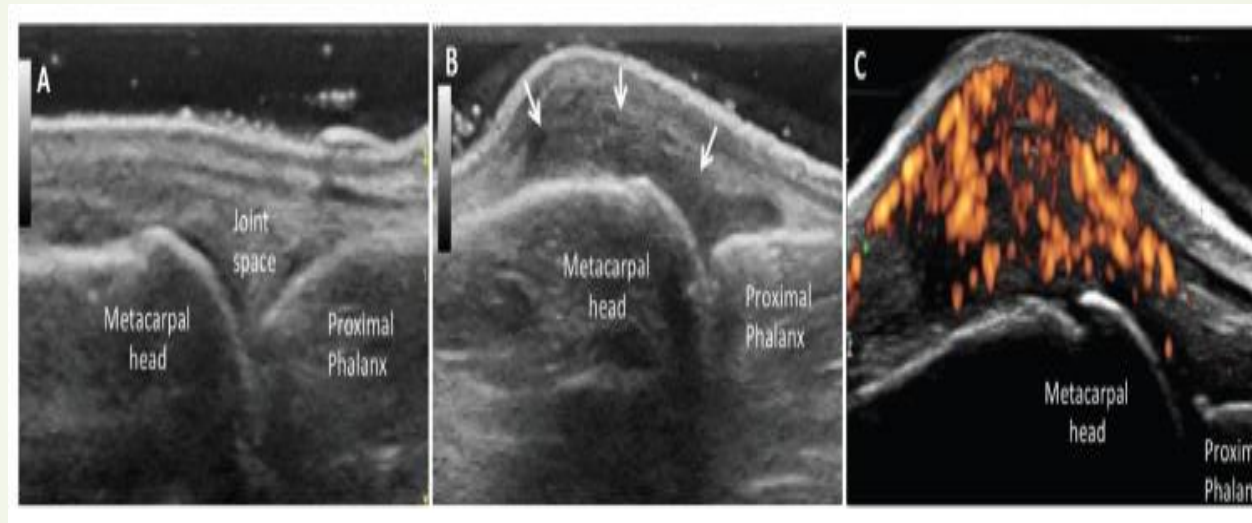


# MSUS



- ➡ Diagnostic and monitoring tool

# MSUS



# Investigations



- ➡ Synovial Fluid Analysis

# Investigations





# Synovial Fluid Analysis

	NORMAL	Non-Inflammatory	Inflammatory	Septic	Hemorrhagic
Clarity	Transparent	Transparent	Translucent	Opaque	Bloody
Colour	Clear	Yellow	Yellow	Dirty/Yellow	Red
Viscosity	High	High	Low	Variable	Variable
WBC/mm <sup>3</sup>	<200	200-2,000	2000-10,000 (up to 100,000)	>80,000	200-2,000
PMNs %	<25%	<25%	>50%	>75%	50-75%

Depending on the clinical scenario, synovial fluid is analysed for:

- Cell count and differential
- Crystals
- Culture and sensitivity (if septic arthritis suspected)
- Cytology (if malignancy suspected)

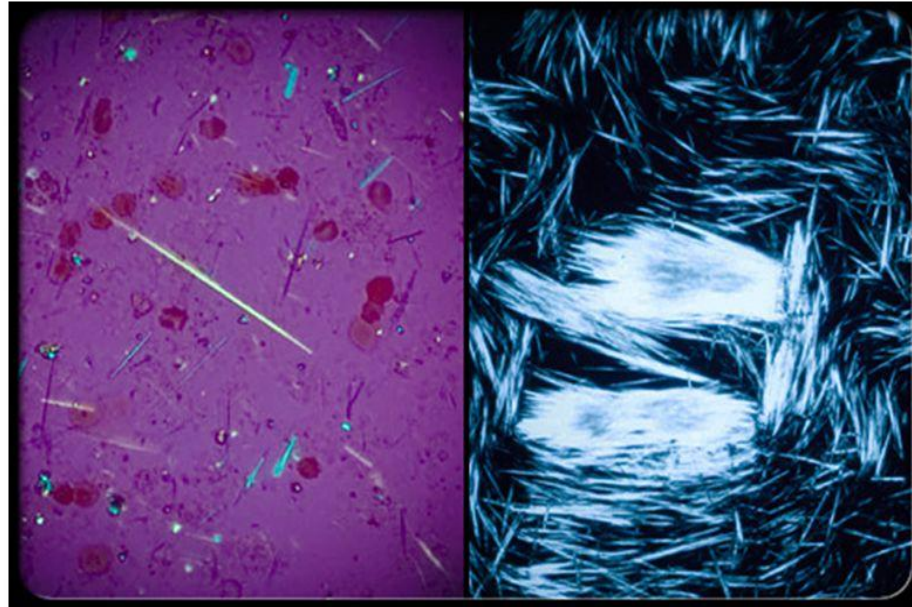


# Synovial Fluid Analysis



WILEY

## Monosodium urate crystals



# Serological Tests



neurocharts



## RHEUMATIC DISEASES & ANTIBODIES

EASY TO REMEMBER STUDENT EDITION

DISEASE	ANTIBODIES
Rheumatoid Arthritis	RF (Rheumatoid Factor) <b>Anti-CCP (Citrullinated protein)</b>
Sys Lupus Erythematosus	ANA (Anti Nuclear Antibody) <b>Anti-dsDNA</b> Anti-Sm
Durg induced Lupus	Anti-histone
Polymyositis	Anti-Jo-1
Dermatomyositis	Anti-Jo-1
Scleroderma	Anti-scl-70 ANA
CREST Syndrome	Anti-centromere
Sjogren's Syndrome	Anti-Ro ANA Anti-LA ANA
Mixed Connective Tissue Disease (MCTD)	Anti-RNP ANA

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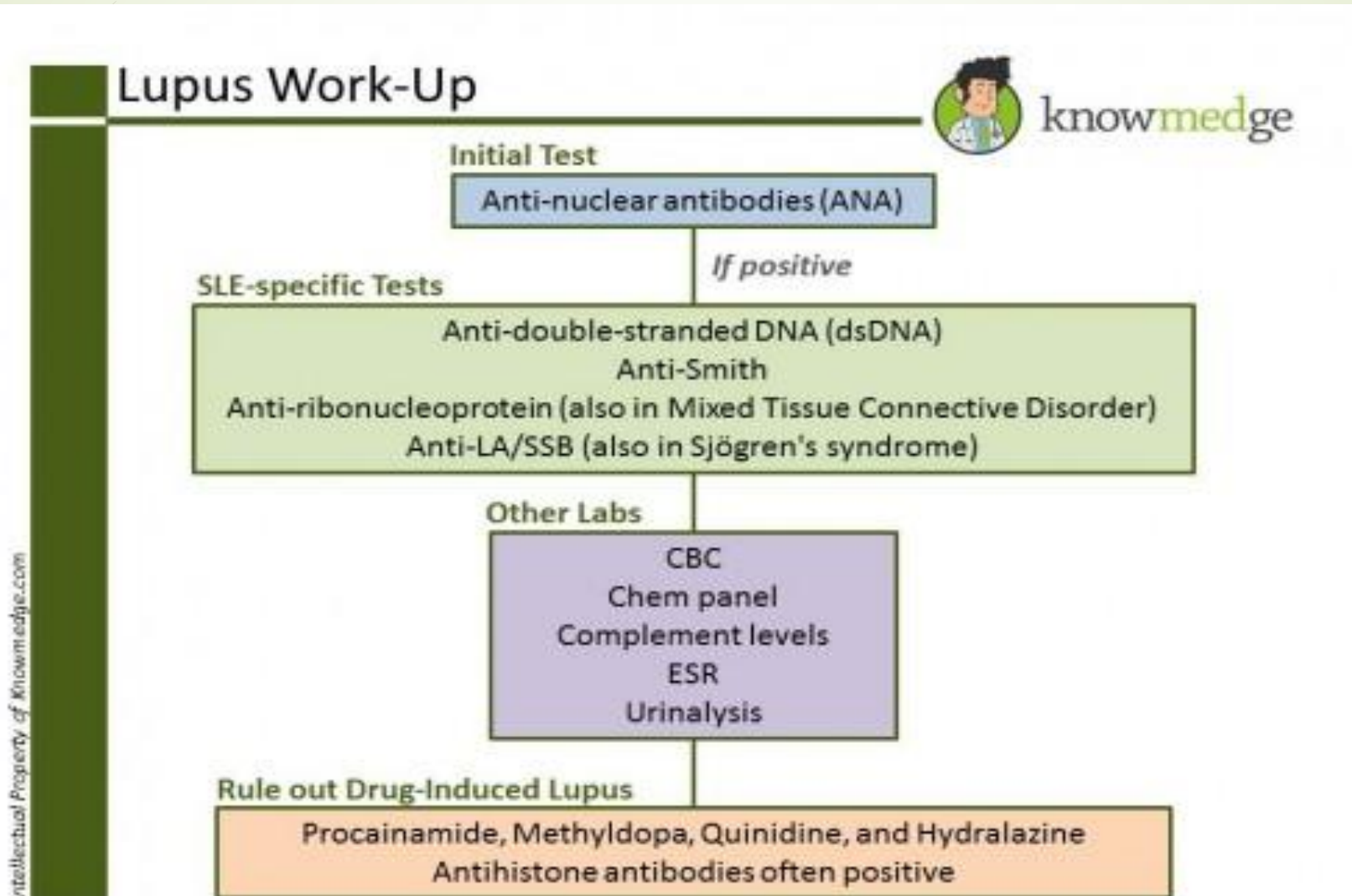


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# Serological Tests



# Take home message

- Focussed history and examination
- Appropriate use of investigations

help in establishing diagnosis of “rheumatological disorders”





# References

- Davidson's textbook of Internal Medicine
- American College of Rheumatology guidelines for management of Rheumatoid Arthritis and Spondyloarthropathy



# Recent Advances

- JAK-inhibitors are novel oral agents approved for use in Inflammatory arthritis including rheumatoid arthritis and ankylosing spondylitis.

جَزَاكَ اللهُ خَيْرًا