

Ankylosing spondylitis



Jokar M.H.
www.doctorjokar.com

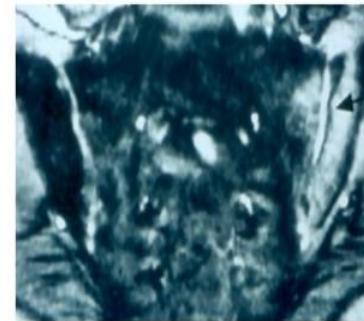
Characteristic Parameters

Symptoms

Inflammatory
back pain



Imaging



Lab

ESR/CRP

Characteristic Parameters

Patient's history

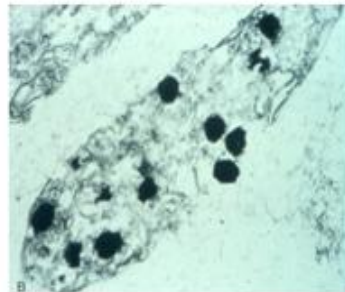
Good response to NSAIDs

Genetics

HLA-B27
positive

family
history

Predisposing/
concomitant
diseases



Infection*



psoriasis



Crohn's

Inflammatory back pain (IBP)

IBP experts (ASAS)

- age at onset < 40 yrs
- insidious onset
- improvement with exercise
- no improvement with rest
- pain at night
(with improvement upon getting up)

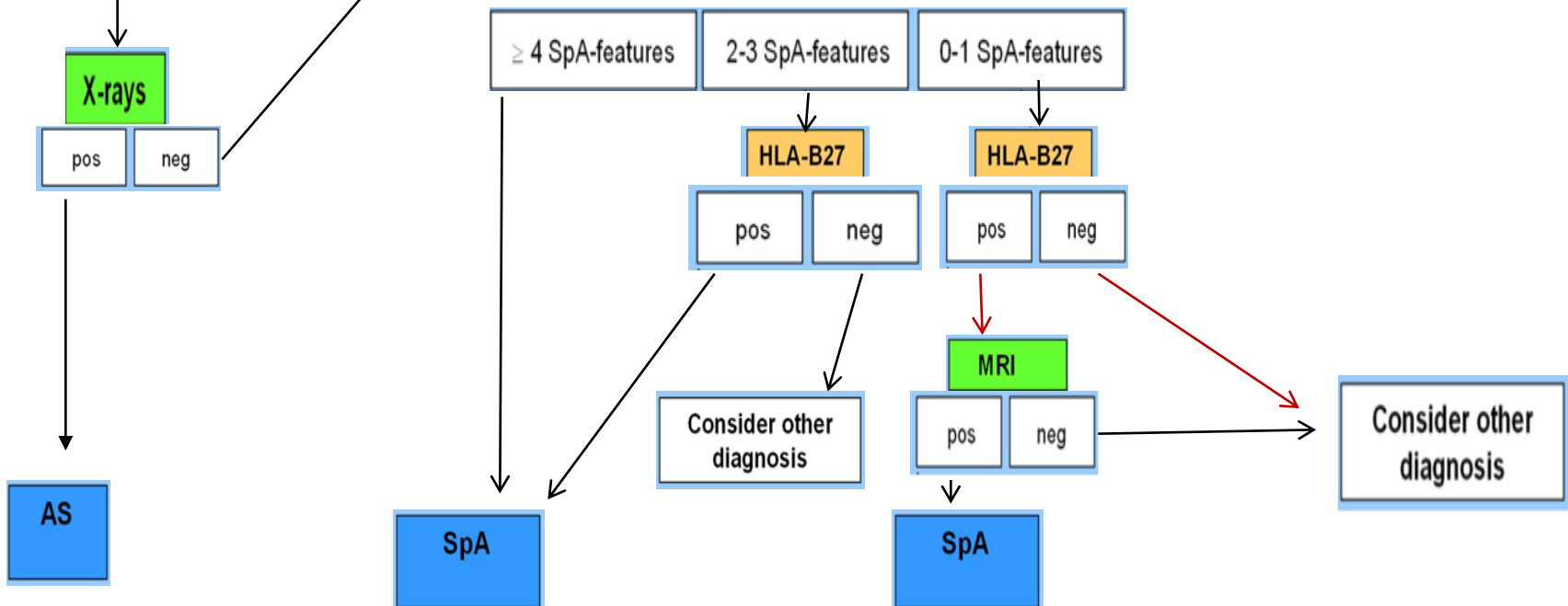
**IBP if 4 / 5 are
present.**

ASAS Algorithm

Chronic low back pain

Other SpA-features?

- Inflammatory back pain
- Alternating buttock pain
- Good response to NSAIDs
- Peripheral arthritis
- Enthesitis
- Dactylitis
- Psoriasis
- Inflammatory bowel disease
- Uveitis
- Elevated acute phase reactants
- Preceding infection
- Positive family history



Differential Diagnosis

- **Chronic mechanical back pain**
- **Fibromyalgia**
- **Diffuse idiopathic skeletal hyperostosis**
- **Vertebral compression fracture**
- **Infections**
- **Osteitis condensans ilii**
- **Insufficiency bone fractures**
- **Ochronosis**



CLASSIFICATION CRITERIA

ASAS Classification Criteria for Axial Spondyloarthritis (SpA)

In patients with ≥ 3 months back pain and age at onset < 45 years

Sacroiliitis on imaging*
plus
 ≥ 1 SpA feature

OR

HLA-B27
plus
 ≥ 2 other SpA features

***Sacroiliitis on imaging**

- active (acute) inflammation on MRI highly suggestive of sacroiliitis associated with SpA
- definite radiographic sacroiliitis according to the modified New York criteria

SpA features:

- inflammatory back pain
- arthritis
- enthesitis (heel)
- uveitis
- dactylitis
- psoriasis
- Crohn's/colitis
- good response to NSAIDs
- family history for SpA
- HLA-B27
- elevated CRP

n=649 patients with back pain;

Overall

Sensitivity: 82.9%, Specificity: 84.4%

Imaging arm alone

Sensitivity: 66.2%, Specificity: 97.3%

Clinical arm alone

Sensitivity: 56.6%, Specificity: 83.3%



CLINICAL ASSESSMENT

Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) on an NRS

Please answer the following questions relating to the last week.

1. How would you describe the overall level of **fatigue / tiredness** you have experienced?

none 0 1 2 3 4 5 6 7 8 9 10 very severe

2. How would you describe the overall level of AS **neck, back or hip pain** you have had?

none 0 1 2 3 4 5 6 7 8 9 10 very severe

3. How would you describe the overall level of **pain / swelling in joints** other than neck, back, hips you have had?

none 0 1 2 3 4 5 6 7 8 9 10 very severe

4. How would you describe the level of discomfort you have had from an **area tender to touch or pressure**?

none 0 1 2 3 4 5 6 7 8 9 10 very severe

5. How would you describe the **level of morning stiffness** you have had from the time you wake up?

none 0 1 2 3 4 5 6 7 8 9 10 very severe

6. How **long does your morning stiffness** last from the time you wake up?

0 1 2 3 4 5 6 7 8 9 10

0 hour

1 hour

2 or more hours

Calculation of BASDAI:

- Compute the mean of questions 5 and 6.
- Calculate the sum of the values of question 1-4 and add the result to the mean of questions 5 and 6.
- Divide the result by 5.

Alternatively, a VAS between 0 and 10 cm or 0 and 100 mm can be used. ASAS prefers to use a NRS.

Ankylosing Spondylitis Disease Activity Score (ASDAS)

Parameters used for the calculation of the ASDAS

1) How would you describe the overall level of AS **neck, back or hip pain** you have had during the last week?

None 0 1 2 3 4 5 6 7 8 9 10 Very severe

2) How long did your **morning stiffness** last from the time you wake up during the last week?

0 1 2 3 4 5 6 7 8 9 10
0 1 2 or more hours

3) How **active** was your rheumatic disease on average during the last week?

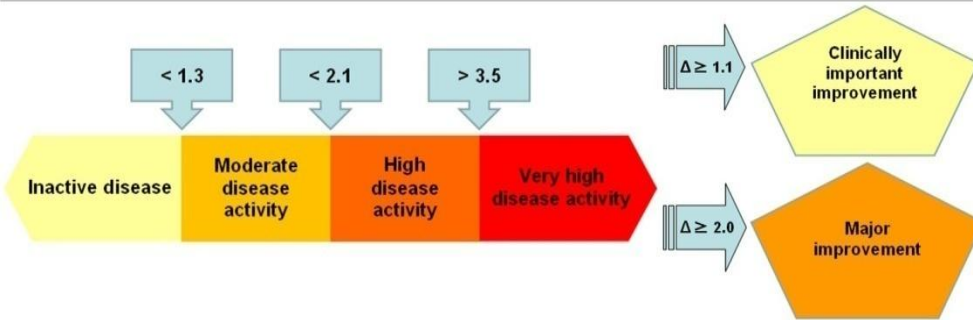
Not active 0 1 2 3 4 5 6 7 8 9 10 Very active

4) How would you describe the overall level of **pain/swelling in joints** other than neck, back or hips you have had during the last week?

None 0 1 2 3 4 5 6 7 8 9 10 Very severe

5) **C-reactive protein** (mg/l) or **erythrocyte sedimentation rate** (mm/h)

Quick ASDAS-CRP Calculation Form



Name : _____

Date : ___ / ___ / ___

1) How would you describe the overall level of AS neck, back or hip pain you have had?

0 1 2 ~~3~~ 4 5 6 7 8 9 10

None Very severe

2) How long does your morning stiffness last from the time you wake up?

0 1 ~~2~~ 3 4 5 6 7 8 9 10

0 1 2 or more hours

3) How active was your spondylitis on average during the last week?

0 1 2 ~~3~~ 4 5 6 7 8 9 10

Not active Very active

4) How would you describe the overall level of pain/swelling in joints other than neck, back or hips you have had?

0 1 2 3 ~~4~~ 5 6 7 8 9 10

None Very severe

5) C-reactive protein (mg/L)?

15

Back Pain	
0	0
1	0,1
2	0,2
3	0,4
4	0,5
5	0,6
6	0,7
7	0,8
8	1,0
9	1,1
10	1,2

Morning Stiffness	
0	0
1	0,1
2	0,1
3	0,2
4	0,2
5	0,3
6	0,4
7	0,4
8	0,5
9	0,5
10	0,6

Patient Global	
0	0
1	0,1
2	0,2
3	0,3
4	0,4
5	0,6
6	0,7
7	0,8
8	0,9
9	1,0
10	1,1

Peripheral Pain/Swelling	
0	0
1	0,1
2	0,1
3	0,2
4	0,3
5	0,4
6	0,4
7	0,5
8	0,6
9	0,6
10	0,7

3 ↪ 0.4 + 2 ↪ 0.1 + 3 ↪ 0.3 + 4 ↪ 0.3

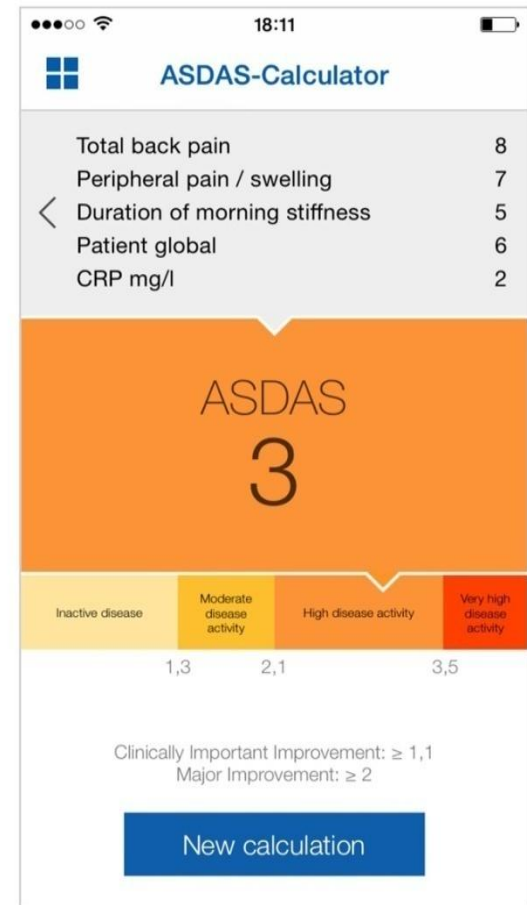
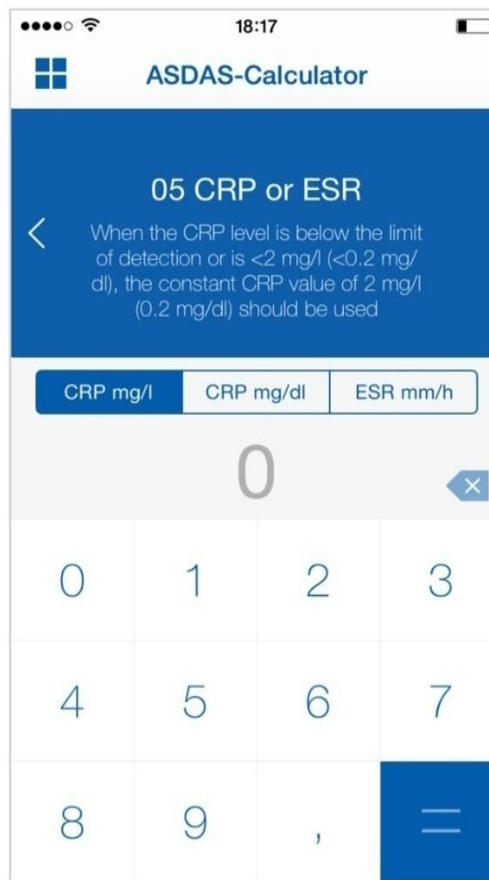
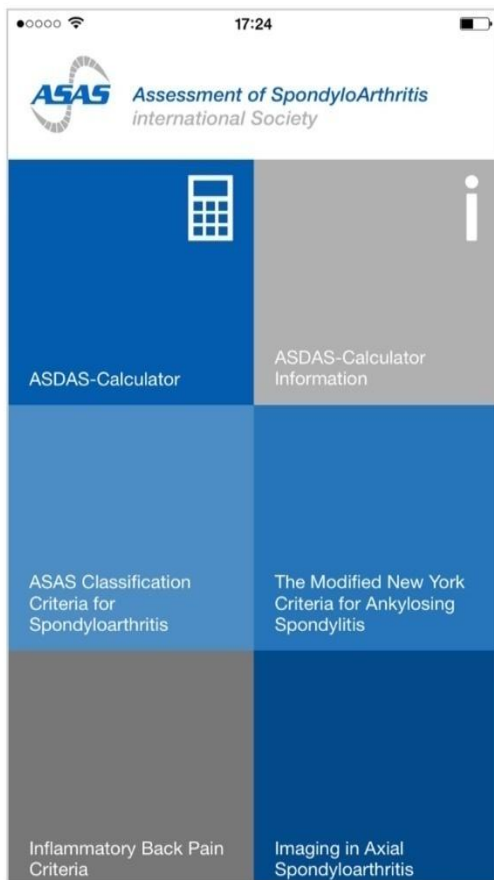
C-Reactive Protein (mg/L)							
0	0,0	14	1,6	60	2,4	130	2,8
1	0,4	15	1,6	65	2,4	135	2,8
2	0,6	16	1,6	70	2,5	140	2,9
3	0,8	17	1,7	75	2,5	145	2,9
4	0,9	18	1,7	80	2,5	150	2,9
5	1,0	19	1,7	85	2,6	155	2,9
6	1,1	20	1,8	90	2,6	160	2,9
7	1,2	25	1,9	95	2,6	165	3,0
8	1,3	30	2,0	100	2,7	170	3,0
9	1,3	35	2,1	105	2,7	175	3,0
10	1,4	40	2,2	110	2,7	180	3,0
11	1,4	45	2,2	115	2,8	185	3,0
12	1,5	50	2,3	120	2,8	190	3,0
13	1,5	55	2,3	125	2,8	195	3,1

15 ↪ + 1.6 = 2.7

ASDAS-CRP



ASAS App with ASDAS Calculator for Smartphones and Tablets





Total back pain

Peripheral pain / swelling

Duration of morning stiffness

Patient global

05
CRP or ESR

When the CRP level is below the limit of detection or is <2 mg/l (<0.2 mg/dl), the constant CRP value of 2 mg/l (0.2 mg/dl) should be used

CRP mg/l	CRP mg/dl	ESR mm/h
----------	-----------	----------

0



0	1	2
3	4	5
6	7	8
9	.	=

or use the online ASDAS calculator below:



ASDAS

Ankylosing Spondylitis Disease Activity Score

Back Pain (BASDAI Question 2) [0-10]

Peripheral Pain/Swelling (BASDAI Question 3) [0-10]

Duration Morning Stiffness (BASDAI Question 6) [0-10]

Patient Global [0-10]

C-Reactive Protein mg/l mg/dl

A CRP value <2mg/l (0.2 mg/dl) is not allowed. If CRP is below the limit of detection or is <2 mg/l (<0.2 mg/dl), the fixed value of 2 mg/l (0.2 mg/dl) will be entered.

Erythrocyte Sedimentation Rate mm/hr

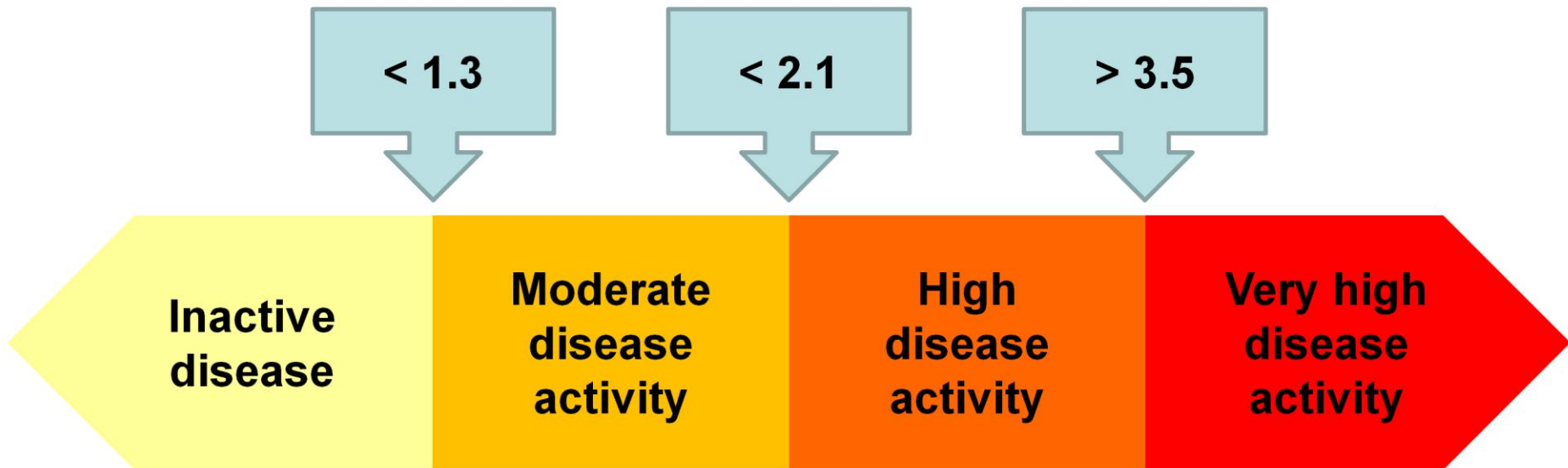
ASDAS-CRP

ASDAS-ESR

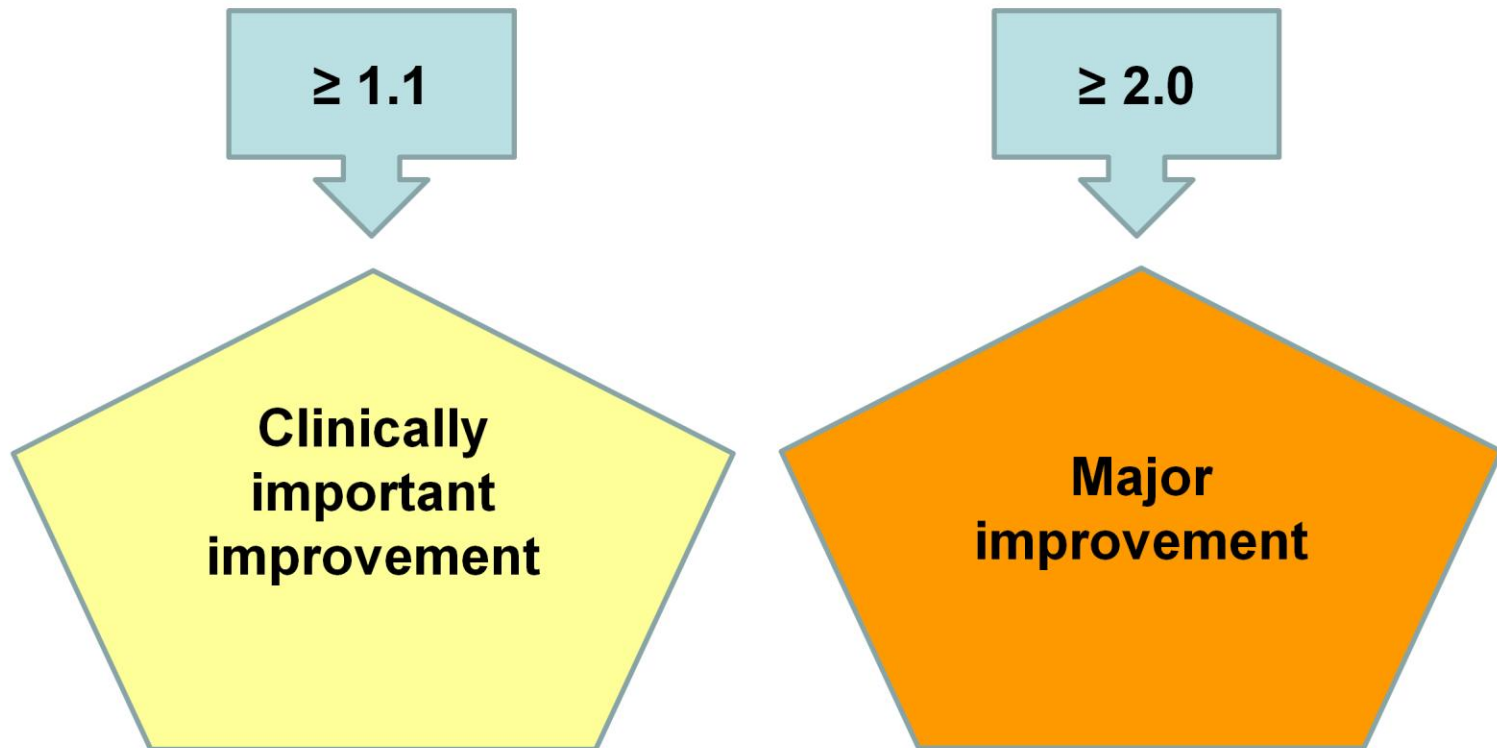
Clear

ASDAS

ASDAS Cut-Offs for Status Scores



ASDAS Cut-Offs for Improvement Scores



ASAS-20 Improvement Criteria

At least 20% improvement and 10 units improvement in 3 of the 4 following domains, without 20% or more worsening and 10 units worsening in the remaining domain:

- BASFI
- Morning stiffness
- Patient global assessment
- Pain

ASAS-40 Improvement Criteria

At least 40% improvement and 20 units improvement in 3 of the 4 following domains, without any worsening in the remaining domain:

- BASFI
- Morning stiffness
- Patient global assessment
- Pain

ASAS-5/6 Improvement Criteria

At least 20% improvement in 5 of the 6 following domains:

- BASFI
- Morning stiffness
- Patient global assessment
- Pain
- Acute phase reactants
- Spinal mobility

ASAS Partial Remission Criteria

A value below 20 units in all 4 domains of the ASAS-20 improvement criteria