Θεραπευτική στρατηγική στην αξονική σπονδυλαρθρίτιδα

4° ΔΙΑΠΑΝΕΠΙΣΤΗΜΙΑΚΟ ΠΡΟΓΡΑΜΜΑ ΕΚΠΑΙΔΕΥΣΗΣ ΣΤΗ ΡΕΥΜΑΤΟΛΟΓΙΑ 2022-24

08.10.2022

RHEUMAZENTRUM RUHRGEBIET

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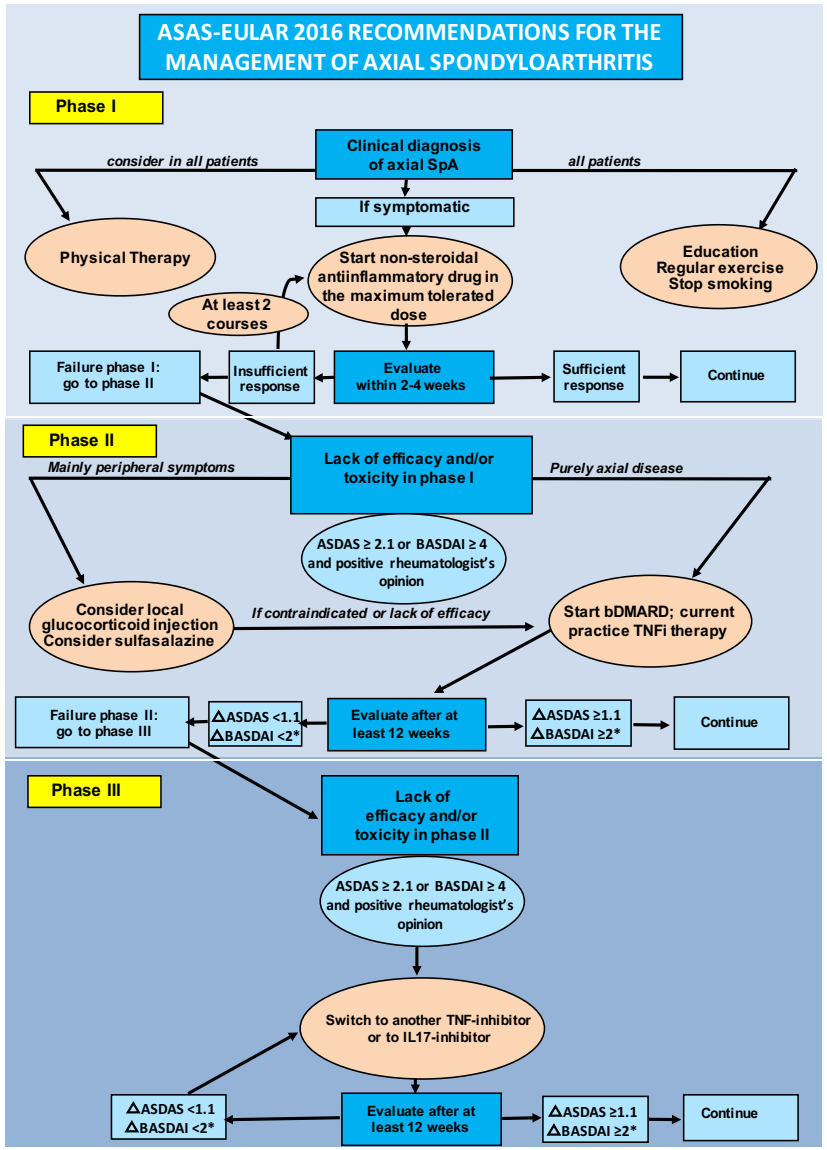
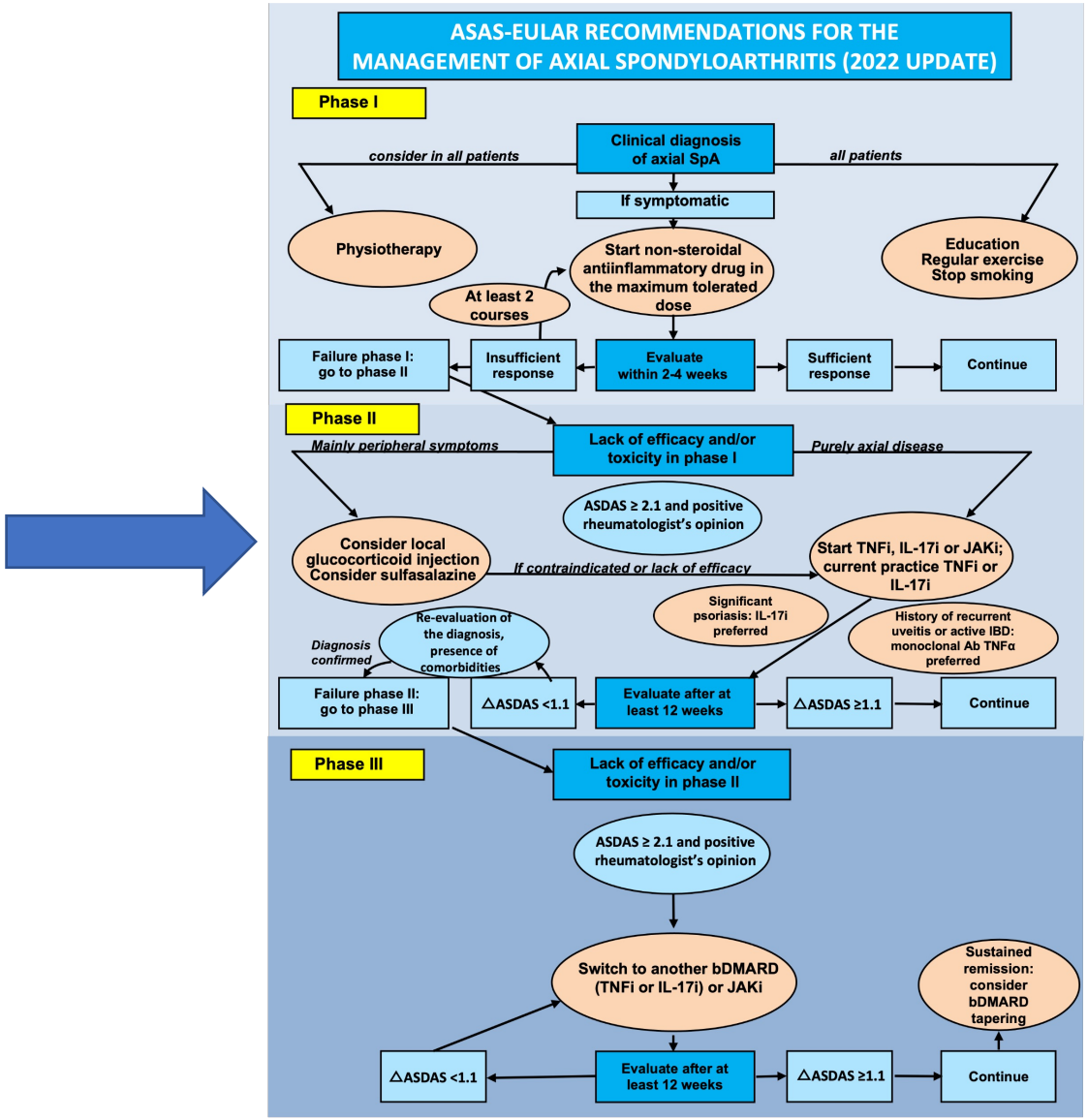
RUHR UNIVERSITÄT BOCHUM RUB

ASAS-EULAR recommendations for the management of axSpA: 2022 update



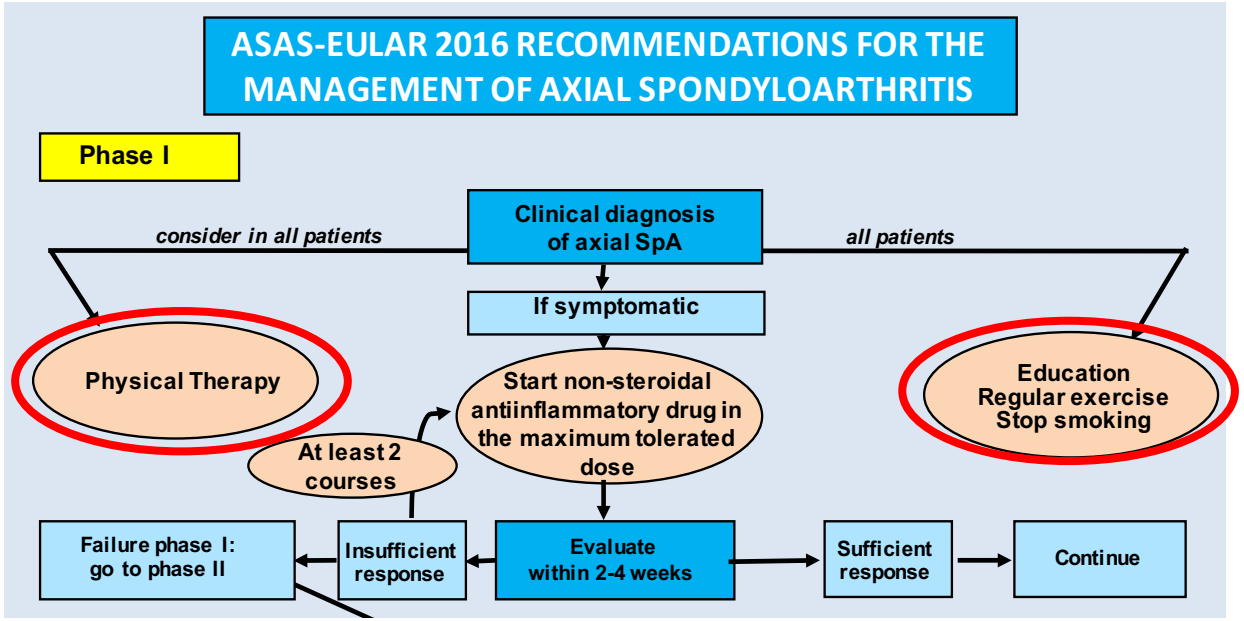


Van der Heijde D et al, Ann Rheum Dis 2017

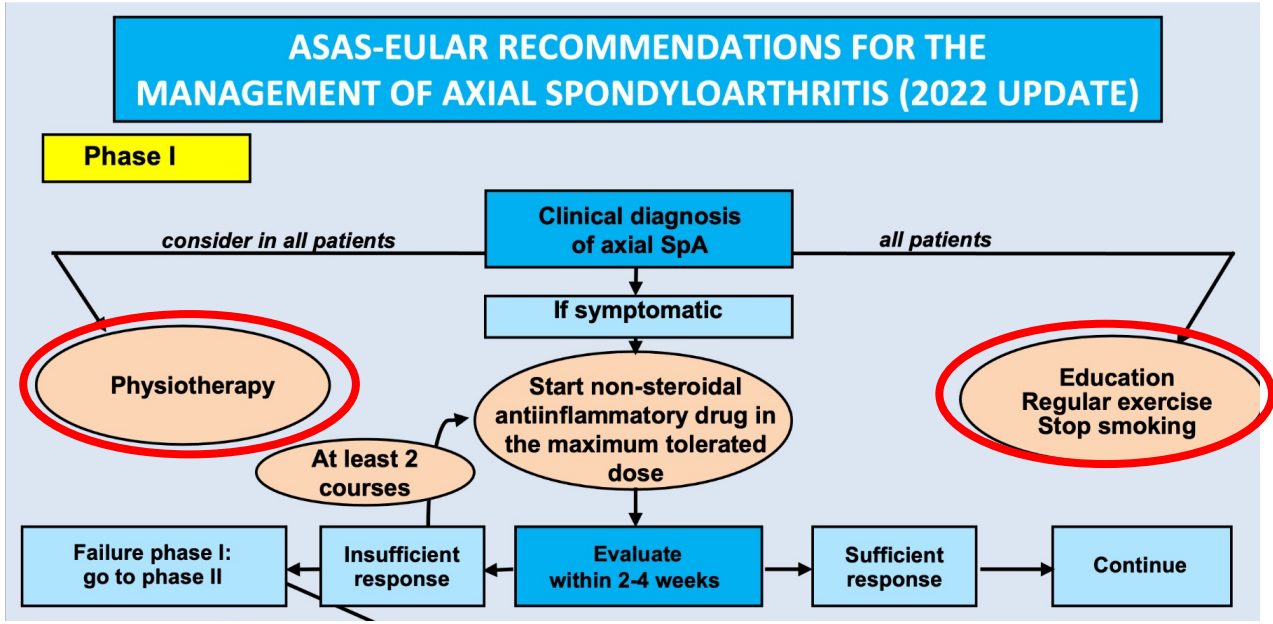
Ramiro S. et al. Ann Rheum Dis 2022

Comparison Phase I

2016



2022



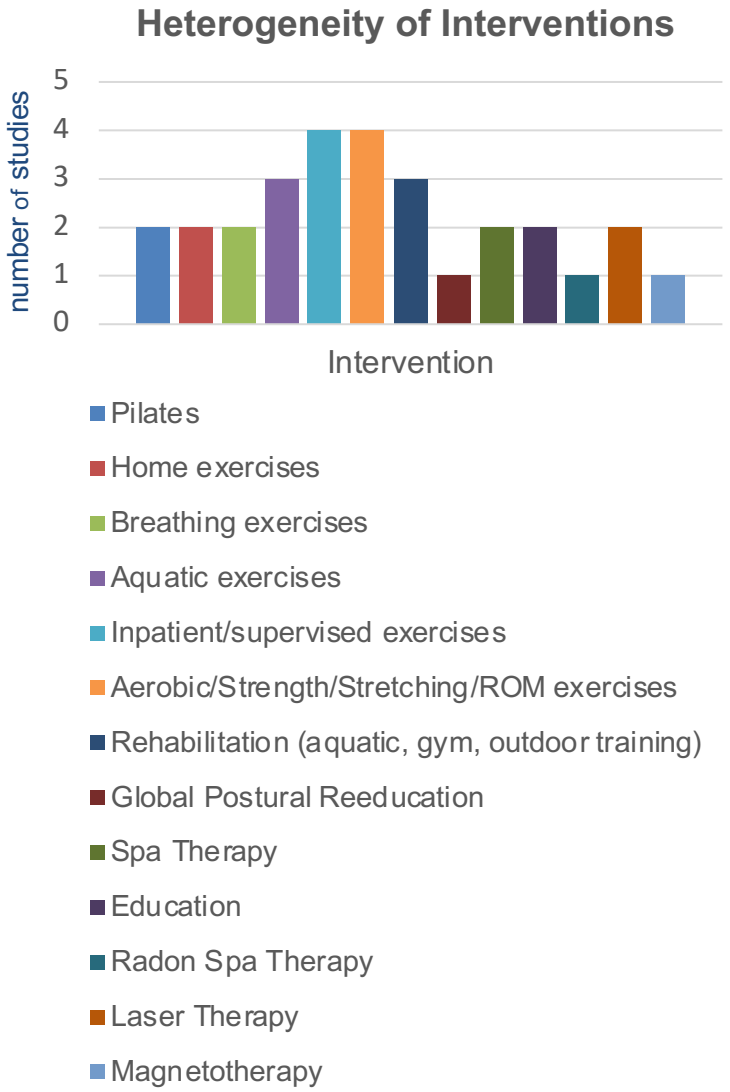
Effect of active smoking vs. reduction vs. never smokers on disease burden in axSpA

Table 3. Differences between current and ex-smokers on clinical and patient-reported variables*

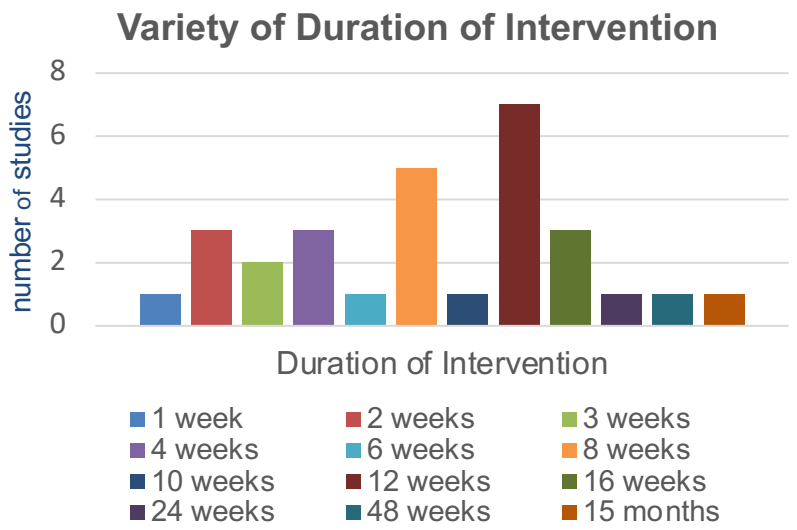
	Ever smoker, median (IQR)†	Never smoker, median (IQR)‡	Current vs. ex-smokers, β (95% CI)§		Weighted model β (95% CI)¶
			Unadjusted	Adjusted	
Bath indices					
BASDAI	4.8 (2.7–6.7)	3.9 (2.0–5.8)	−0.7 (−1.2, −0.2)	−0.5 (−1.0, −0.04)	−0.3 (−0.9, 0.2)
BASFI	4.9 (2.6–7.2)	4.2 (2.0–6.9)	−10.4 (−1.0, 0.2)	−0.4 (−1.0, 0.2)	−0.4 (−1.0, 0.2)
BASMI	4.5 (2.4–6.3)	4.0 (2.6–6.2)	−0.1 (−0.6, 0.4)	−0.4 (−0.9, 0.1)	−0.4 (−0.9, 0.2)
C-reactive protein level	16 (8–31)	14 (5–27)	–	–	–
Extraspinal manifestations, no. (%)					
Uveitis	46 (25.4)	130 (42.3)	2.2 (1.4, 3.2)**	2.4 (1.5, 3.8)**	2.4 (1.5, 3.8)**
Psoriasis	20 (11.1)	46 (15.2)	–	–	–
Inflammatory bowel disease	20 (11.1)	36 (12.12)	1.1 (0.6, 2.0)**	1.3 (0.6, 2.5)**	1.3 (0.6, 2.5)**
Peripheral joint disease	115 (56.1)	212 (59.4)	–	–	–
History of TNF inhibition, no. (%)	80 (39.0)	120 (33.6)	0.8 (0.6, 1.1)**	1.1 (0.3, 1.9)**	1.3 (0.7, 2.4)**
Quality of life					
ASQoL	10 (5–15)	7 (3–12)	−1.9 (−2.9, −0.9)	−1.2 (−2.3, −0.2)	−1.2 (−2.3, −0.2)
EQ-5D	0.70 (0.51–0.81)	0.77 (0.60–0.88)	0.07 (0.03, 0.10)	0.04 (0.001, 0.08)	0.04 (0.001, 0.08)
SF-36 PCS	33.4 (25.2–44.9)	35.7 (27.2–45.7)	1.6 (−0.4, 3.6)	2.0 (−0.2, 4.1)	2.0 (−0.2, 4.1)
SF-36 MCS	43.4 (32.2–54.2)	48.9 (37.3–56.9)	3.8 (1.8, 5.8)	1.9 (−0.4, 4.1)	1.9 (−0.4, 4.1)

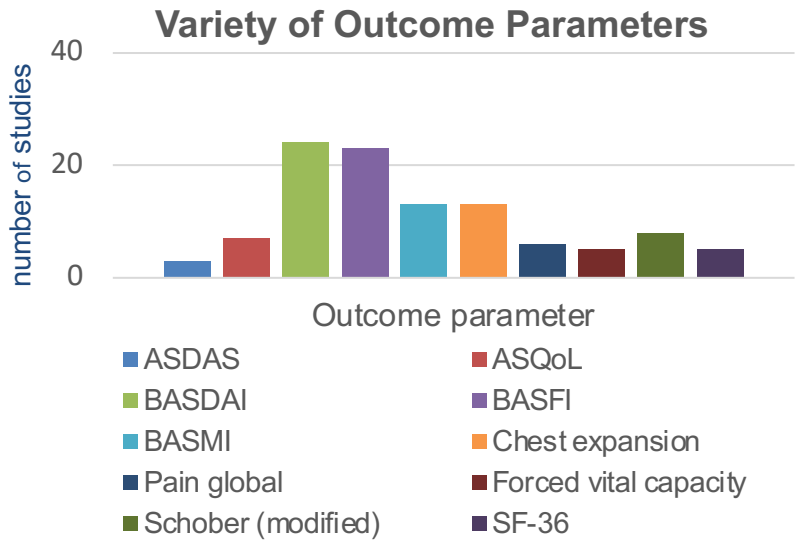
Jones G et al, Arthritis Rheum 2017

Heterogeneity of data for physiotherapy



ROM = Range-of-motion exercises





Regel A et al, RMD Open 2017

	Study	Intervention	n	weeks*	Primary endpoint	BASDAI	BASFI	BASMI	Pain global	ASDAS	RoB
Exercises/Rehabilitation											
1	Dundar 2014	Aquatic exercises	35	4	NS	0.68	0.34	1.07	0.96	--	unclear
		Land-based exercises	34			0.52	0.39	0.77	0.57	--	
2	Kjeken 2013	Rehabilitation program	29	3	BASDAI (+) BASFI (-)	--	--	--	--	--	unclear
		„treatment as usual“	34			--	--	--	--	--	
3	Niedermann 2013	Nordic walking + flexibility	53	12	Physical work capacity on bicylce (+)	0.24	-0.07	0.18	--	-0.29	unclear
		Attention control + flexibility	53			0.21	0.00	0.07	--	0.07	
4	Sveaas 2014	Endurance + strength training	10	12	ASDAS (-)	1.43	0.50	0.20	--	0.83	unclear
		No exercises	24			0.08	0.00	0.06	--	0.13	
Education											
5	Rodriguez 2013	Education + exercises	381	24	BASDAI (+) BASFI (+)	0.28	0.22	--	0.27	--	unclear
		Standard care**	375			0.16	0.08	--	0.15	--	
Other interventions											
6	Annegret 2013	Radon Spa therapy	20	4	Pain (+)	--	0.12	--	--	--	low
		Tap water baths	19			--	0.05	--	--	--	
7	Aydin 2013	Low-Level Laser Therapy	19	2	NS	--	--	--	--	--	unclear
		Placebo Laser	18			--	--	--	--	--	
8	Stasinopoulos 2016	Laser Therapy + stretching	24	8	NS	--	0.84	--	2.48	--	unclear
		Placebo Laser + stretching	24			--	-0.11	--	0.12	--	
9	Turan 2014	Magnetotherapy + exercises	35	2	Harris hip assessment index (-)	--	--	--	--	--	low
		Placebo Magnetotherapy	31			--	--	--	--	--	

*Duration of Intervention **pharmacological + non-pharmacological interventions

NS = non-specified

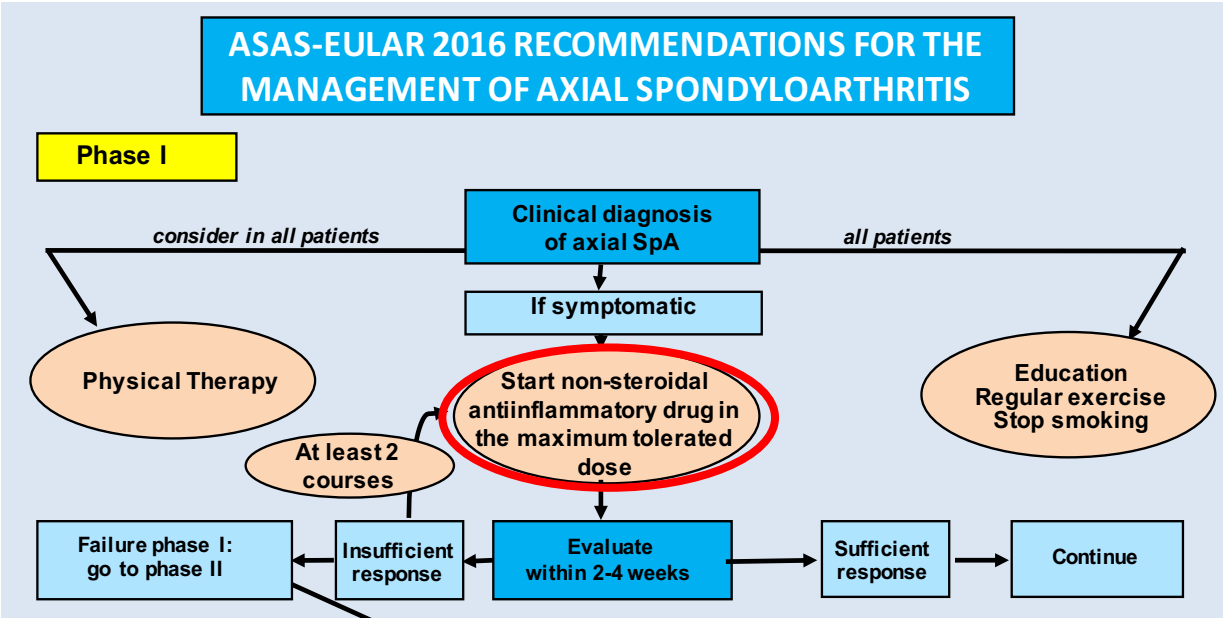
(+) positive trial, (-) negative trial

< 0.0 worsening | < 0.5 small change | < 0.8 moderate change | ≥ 0.8 large change

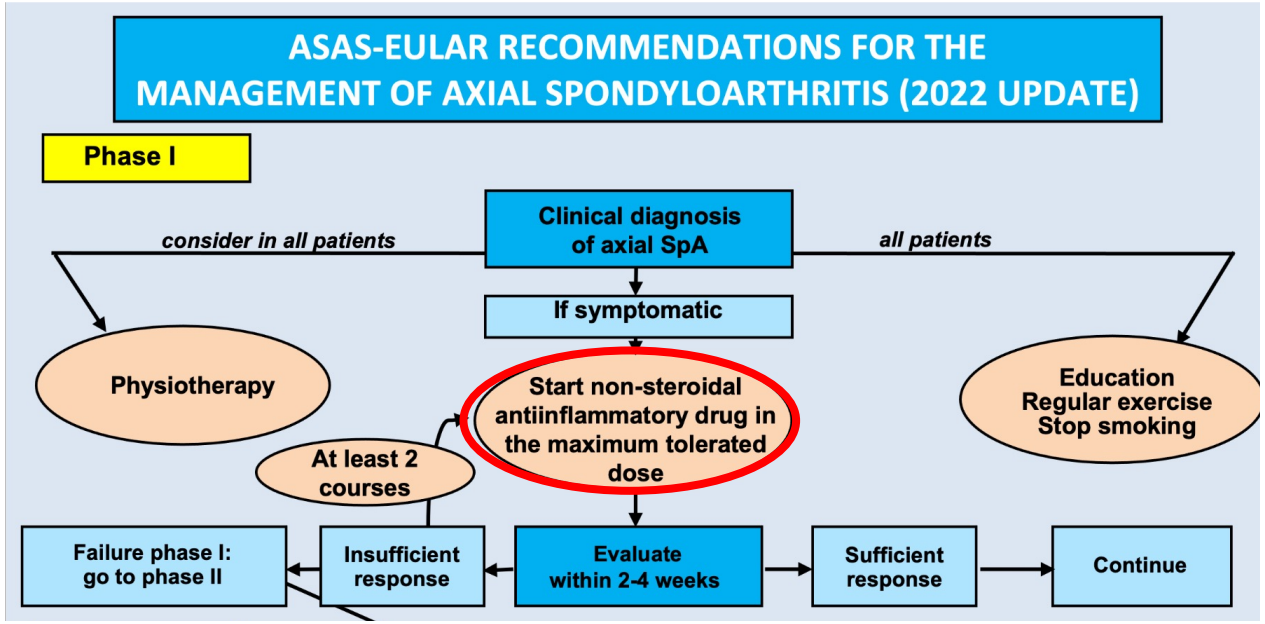
Regel A et al, RMD Open 2017

Comparison Phase I

2016

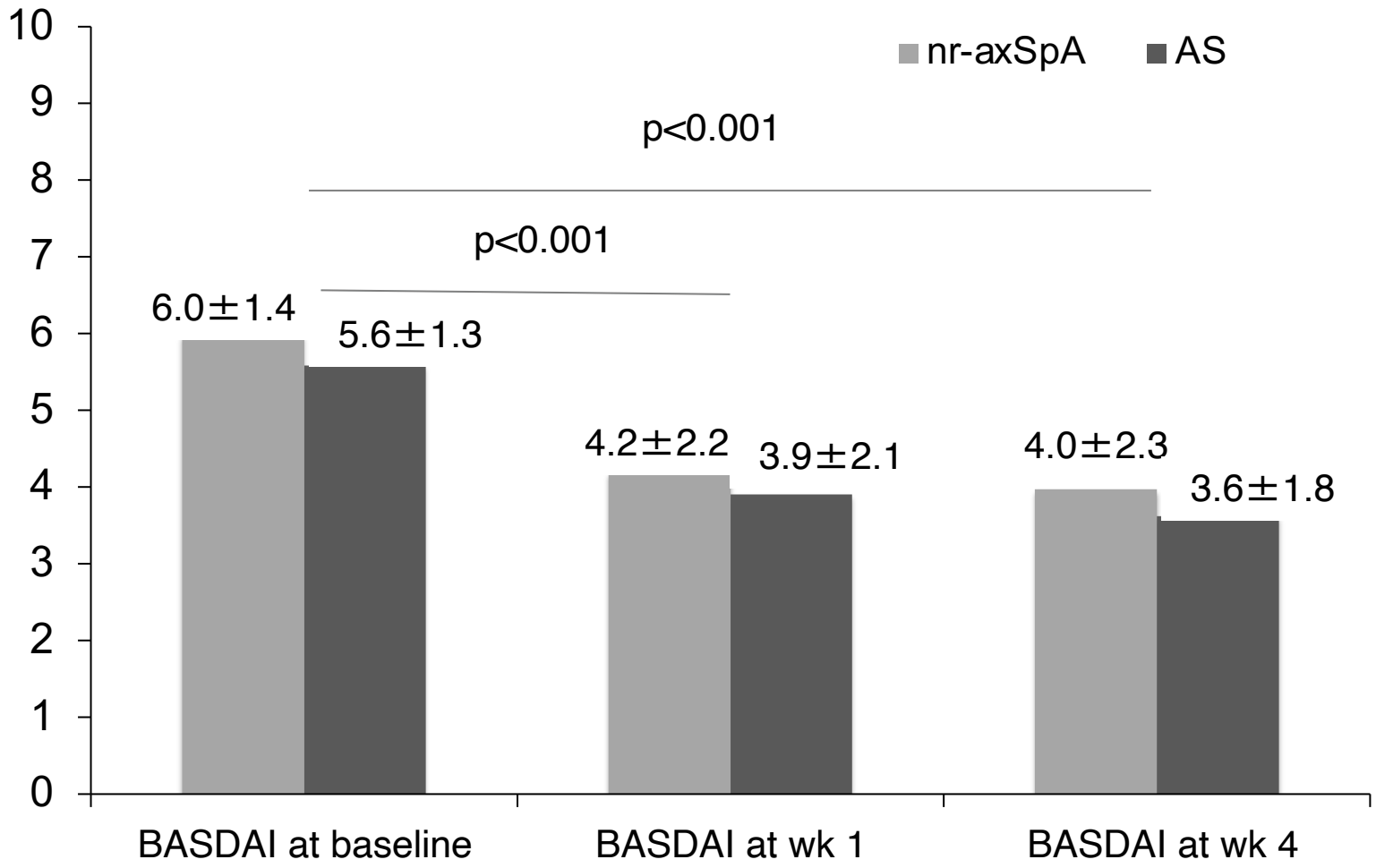


2022



Efficiency of NSAIDs in axSpA: How fast and for how many patients?

Intervention: All patients treated with the maximum possible dose of NSAIDs



Baraliakos X et al, Rheumatology 2017

Remission in axSpA: what can we expect from NSAIDs?

TABLE 2 Outcome parameters after 1 and 4 weeks of continuous NSAID treatment in both axSpA subgroups

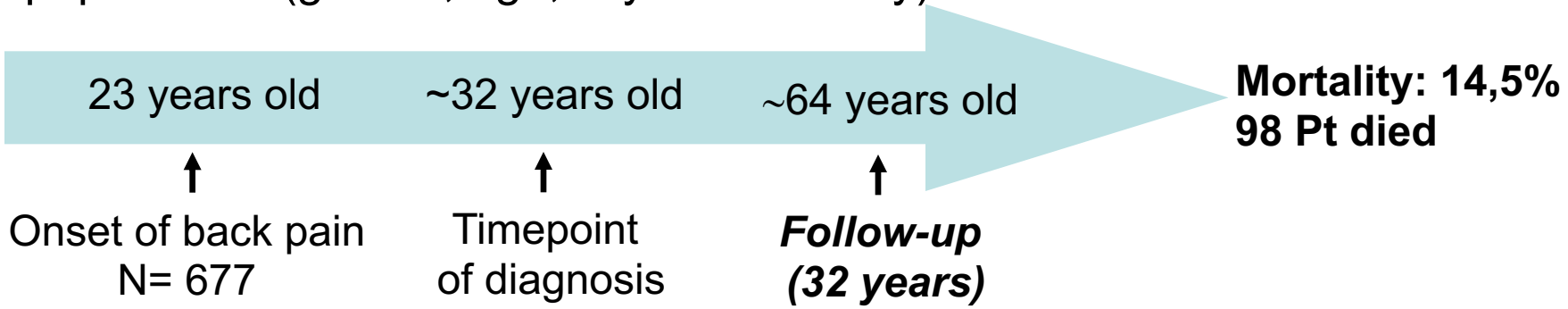
Outcome parameter	1 week after baseline			4 weeks after baseline		
	nr-axSpA ($n = 50$)	AS ($n = 50$)	axSpA ($n = 100$)	nr-axSpA ($n = 50$)	AS ($n = 50$)	axSpA ($n = 100$)
Mean BASDAI, mean (S.D.)	4.2 (2.2)	3.9 (2.1)	4.0 (2.1)	3.9 (2.3)	3.6 (1.8)	3.8 (2.1)
Mean BASFI, mean (S.D.)	3.4 (1.9)	3.4 (2.1)	3.4 (2.0)	3.2 (2.3)	3.3 (2.2)	3.3 (2.3)
Mean ASDAS, mean (S.D.)	1.8 (0.8)	1.9 (0.9)	1.9 (0.8)	1.7 (0.8)	1.7 (0.7)	1.7 (0.8)
BASDAI <3, % patients	30	40	35	36	44	40
ASDAS <1.3, % patients	30	26	28	36	32	34
ASAS PR, % patients	8	12	10	14	18	16
BASDAI ⩾4, % patients	48	50	49	46	42	44
ASDAS-CRP ⩾2.1, % patients	32	42	37	34	32	33
ASDAS clinically important improvement, % patients	26	24	25	32	34	33
ASAS40 response, % patients	24	24	24	30	40	35
BASDAI 50% patients response, % patients	30	36	33	36	40	38

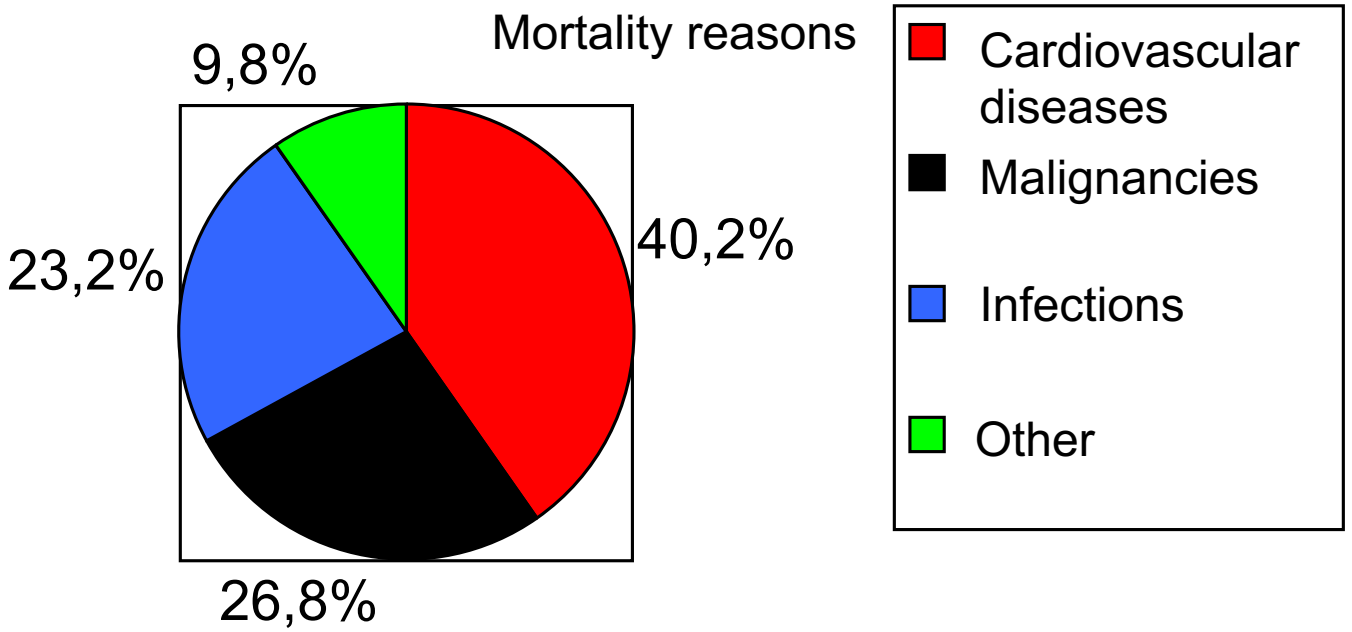
There were no statistical differences in the improvement rates between the axSpA subgroups in any of the assessed outcomes (all $P > 0.05$). PR: partial remission.

Baraliakos X et al, Rheumatology 2016

Long-term safety for NSAID treatment in AS

- Norwegian study, n= 677 (76% male) compared to 3 matched control populations (gender, age, city of residency)

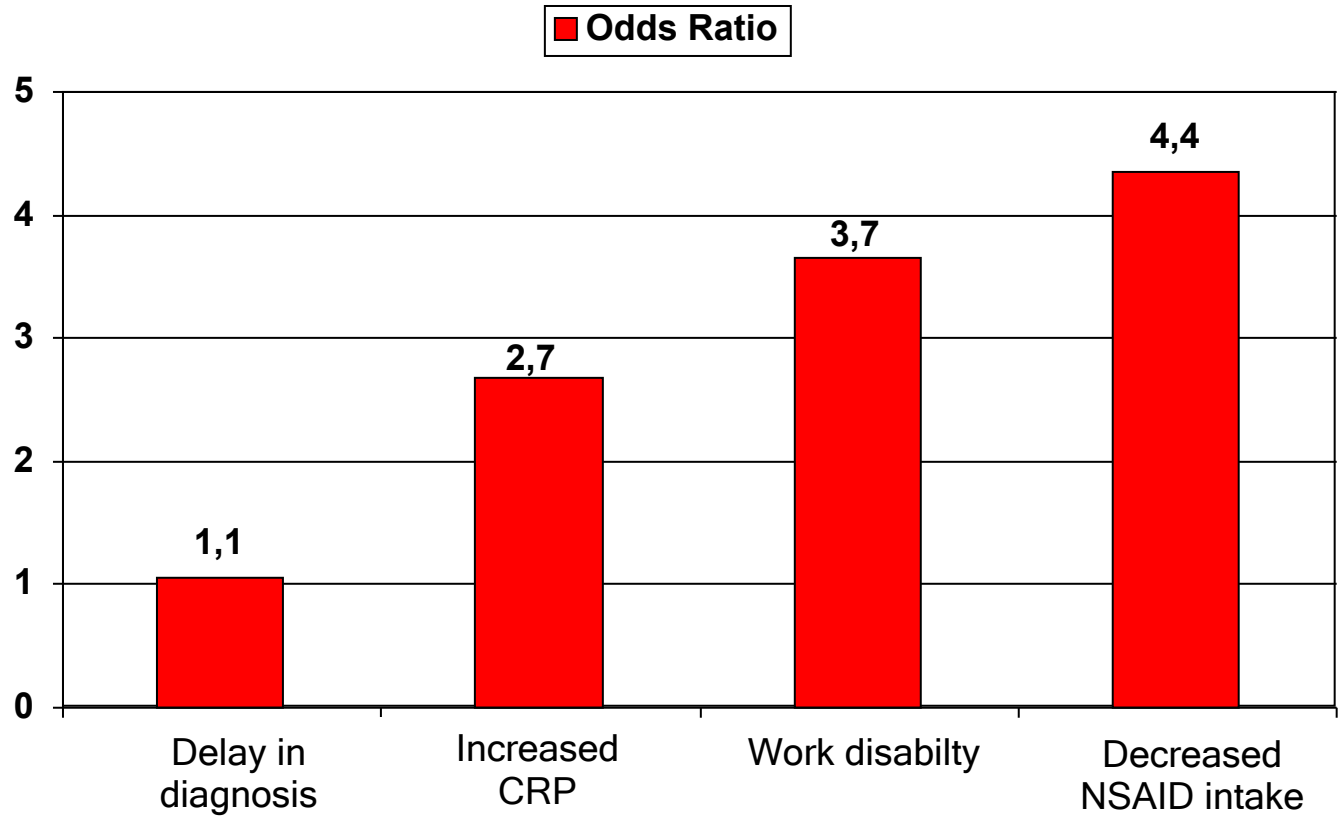




Bakland G. et al. Ann Rheum Dis 2011

Long-term safety for NSAID treatment in AS

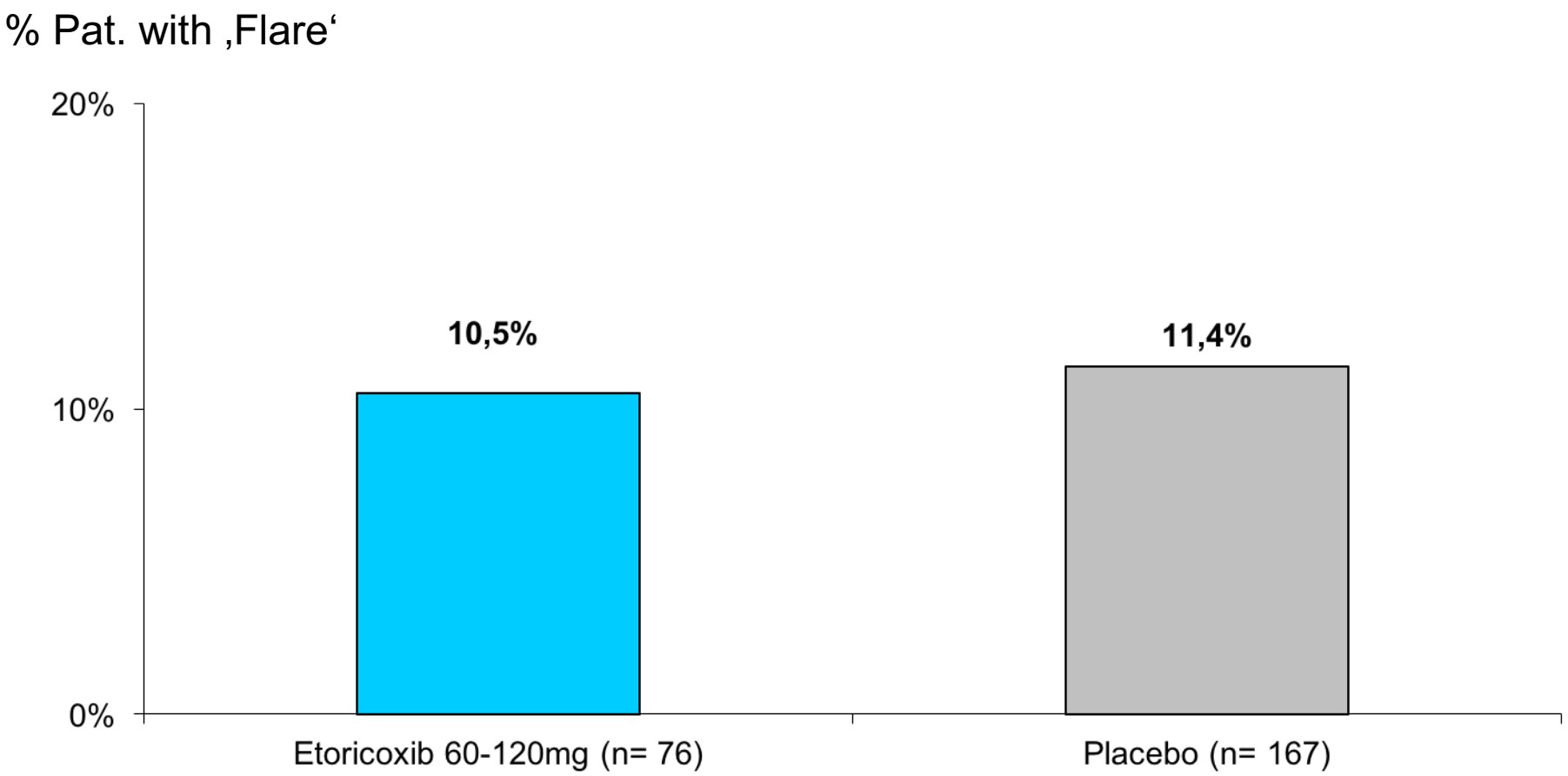
- Subgroup (n= 360)
  - Prospective follow-up, 28 Pts (7,8%) died
  - Variables associated with increased mortality:



Bakland G. et al. Ann Rheum Dis 2011

Are NSAIDs/COX-II inhibitors safe in patients with IBD and rheumatic manifestations?

- DBPC study with **Etoricoxib 60-120 Tag** over 3 months in patients with IBD and rheumatic manifestations



Miedany et al, Am J Gastroenterol 2006

ASAS-EULAR Recommendations for the treatment of patients with axSpA with b/tsDMARDs

Rheumatologist's diagnosis of axial SpA

and

Elevated CRP or positive MRI-SIJ or Radiographic sacroiliitis*

and

Failure of standard treatment

All patients

At least 2 NSAIDs over 4 weeks (in total)

Patients with predominant peripheral manifestations

One local steroid injection if appropriate

Normally a therapeutic trial of sulfasalazine

and

High disease activity: ASDAS ≥ 2.1

and

Positive rheumatologist's opinion

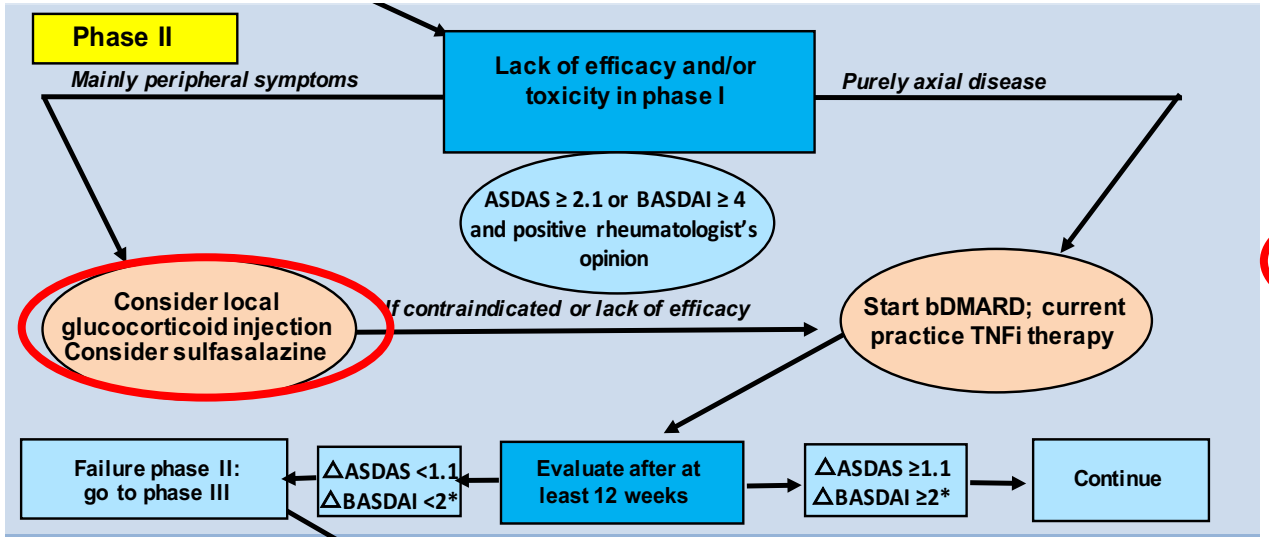
* Radiographic sacroiliitis is currently mandatory for infliximab and JAKi

ASAS Assessment of SpondyloArthritis international Society

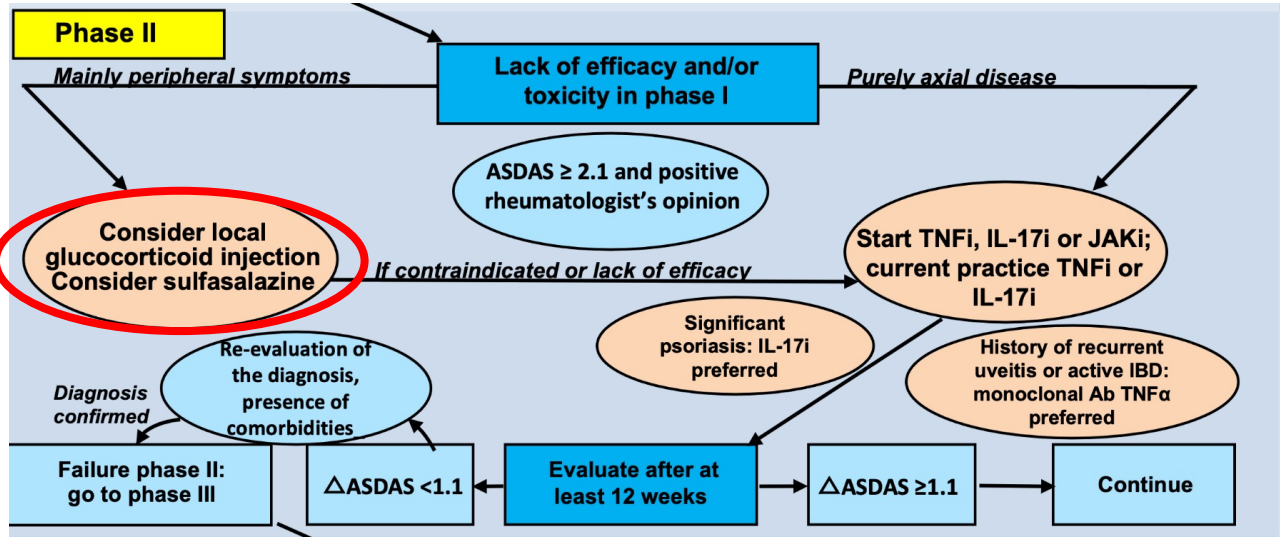
eular

Comparison Phase II

2016

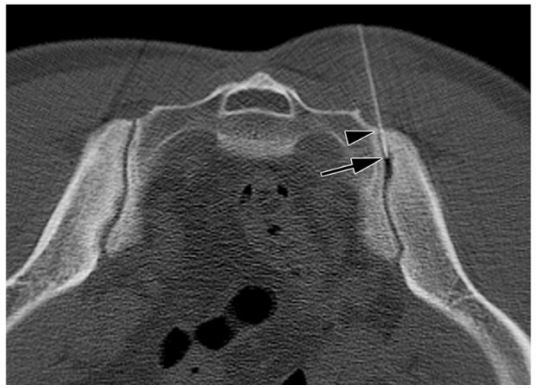


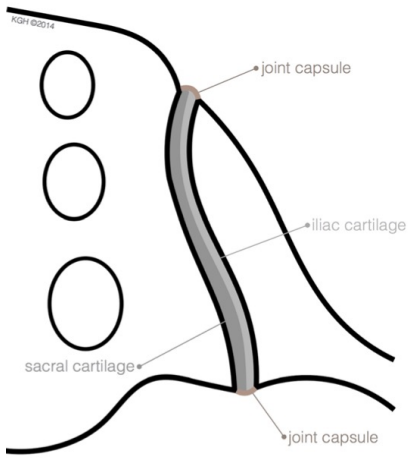
2022



Local glucocorticoid injections – Is there a benefit?

Intra-articular (more synovium)





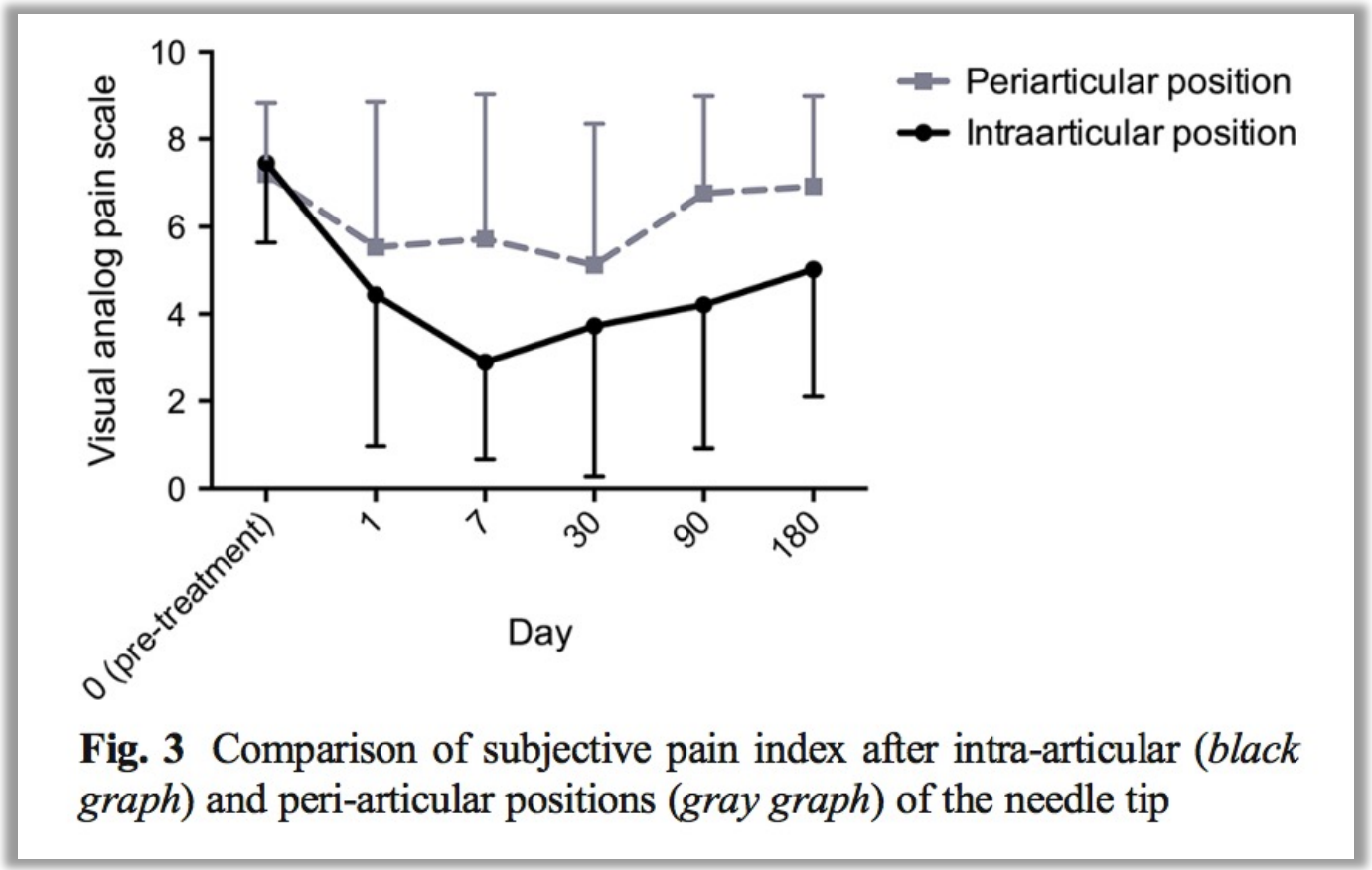
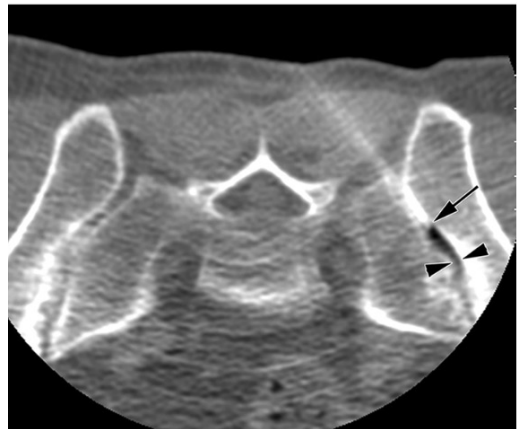
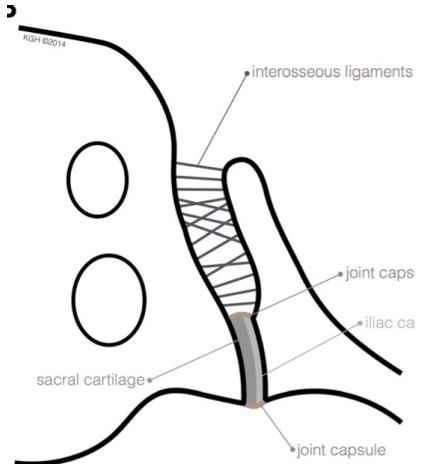


Fig. 3 Comparison of subjective pain index after intra-articular (*black graph*) and peri-articular positions (*gray graph*) of the needle tip

Peri-articular
(retro-auricular space, ligaments and fat tissue)





Althoff K et al, Clin Rheumatol 2015

SSZ in axSpA – Is there a benefit?

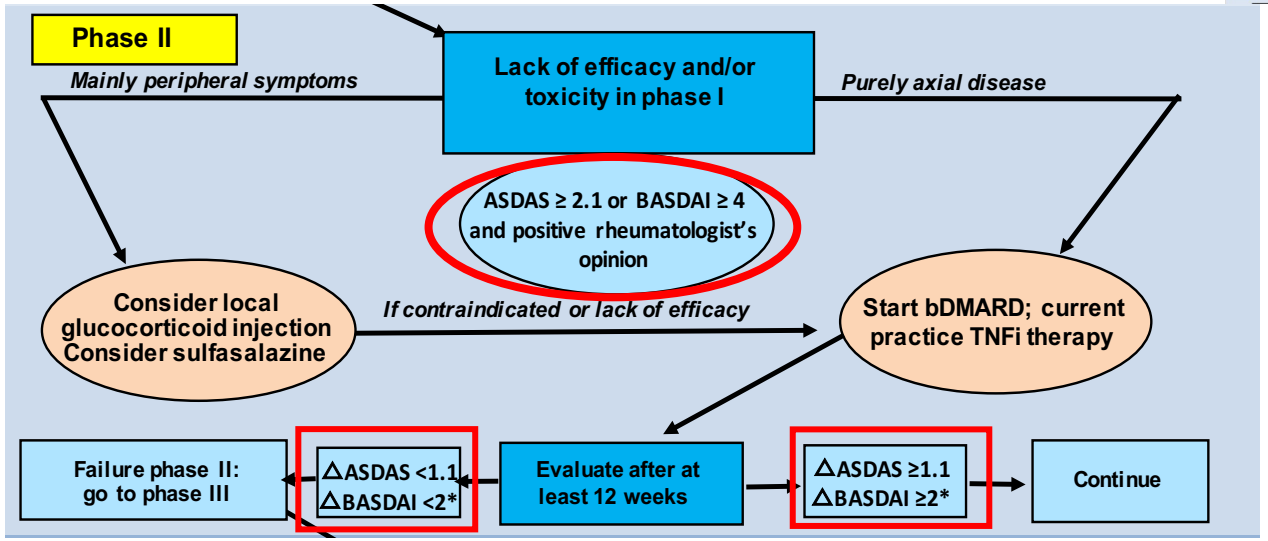
NOR-DMARD Registry, 3 month follow-up

	All patients *n* = 139	Swollen joints at baseline *n* = 64	No swollen joints at baseline *n* = 75	*P*-value	Adjusted *P*-value[a]
Δ Patient global	−9.8 (24.7)	13.4 (23.4)	−4.3 (25.1)	0.04	0.12
Δ Physician global	−10.3 (21.1)	−10.3 (22.0)	−9.0 (19.0)	0.72	0.49
Δ MHAQ	−0.11 (0.36)	−0.15 (0.38)	−0.07 (0.32)	0.19	0.57
Δ SF-6D	0.05 (0.11)	0.05 (0.11)	0.04 (0.11)	0.31	0.92
Δ CRP	−4.5 (19.5)	−7.1 (24.7)	−1.3 (9.7)	0.11	0.90
Δ Swollen joints (0–32)	−0.6 (3.2)	−1.4 (2.9)	0.3 (0.7)	NA	NA
	n = 79[b]	*n* = 37[b]	*n* = 42[b]		
ASDAS M.I., %	6.7	7.7	5.6	1.0[c]	0.84
ASDAS C.I.I., %	17.8	23.1	11.1	0.44[c]	0.43
BASDAI50 response, %	27.4	28.6	22.2	0.54	0.19
BASDAI response, %	35.6	40.0	27.8	0.28	0.21
ASAS20 response, %	21.4	25.7	15.2	0.28	0.52
ASAS40 response, %	12.9	17.1	9.1	0.48[c]	0.65
Δ ASDAS	−0.4 (1.0)	−0.6 (1.0)	−0.1 (0.8)	0.10	0.38
Δ BASDAI	−0.9 (1.9)	−1.4 (1.9)	−0.3 (1.7)	0.02	0.008
Δ BASDAI back pain score (Q2)	−0.9 (0.8)	−1.3 (2.1)	−0.5 (2.6)	0.25	0.58
Δ BASDAI peripheral pain score (Q3)	−0.9 (0.5)	−1.6 (2.6)	0.1 (2.3)	0.007	0.006
Δ BASFI	−0.6 (1.8)	−0.7 (2.0)	−0.6 (1.8)	0.76	0.32

Fagerli K et al, Rheumatology 2015

Comparison Phase II

2016



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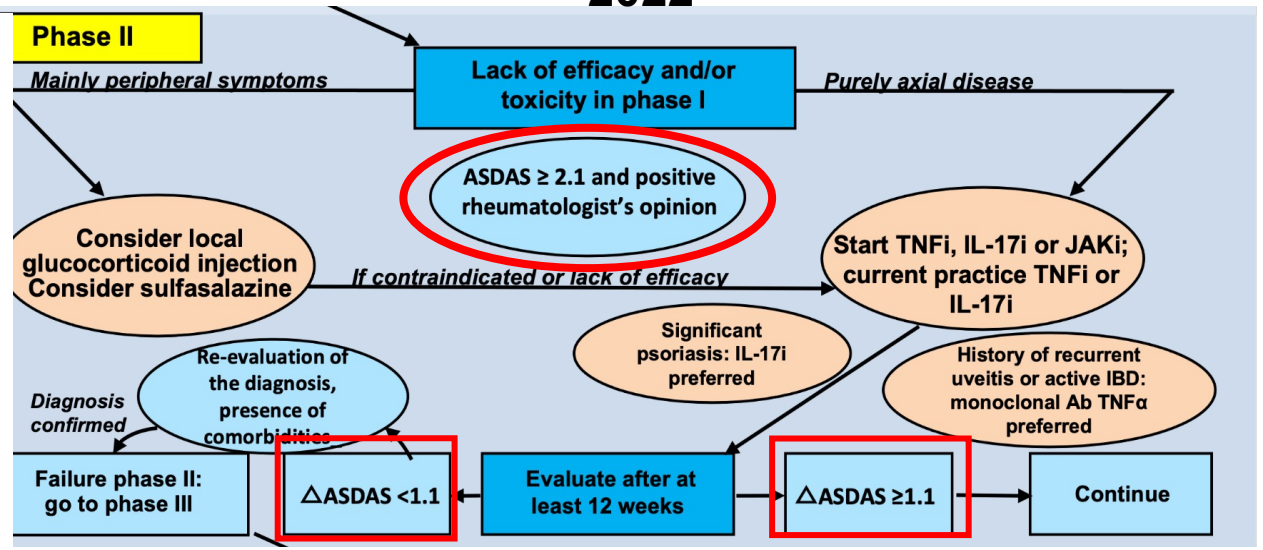


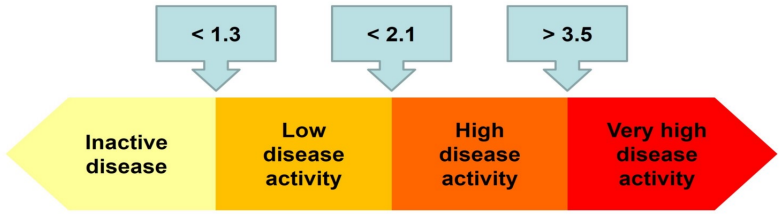
Ankylosing Spondylitis Disease Activity Score (ASDAS)

Parameters used for the calculation of the ASDAS

1. Total back pain (BASDAI question 2)
2. Duration of morning stiffness (BASDAI question 6)
3. Patient global assessment of disease activity
4. Peripheral pain/swelling (BASDAI question 3)
5. C-reactive protein (CRP) in mg/l [or erythrocyte sedimentation rate (ESR)]

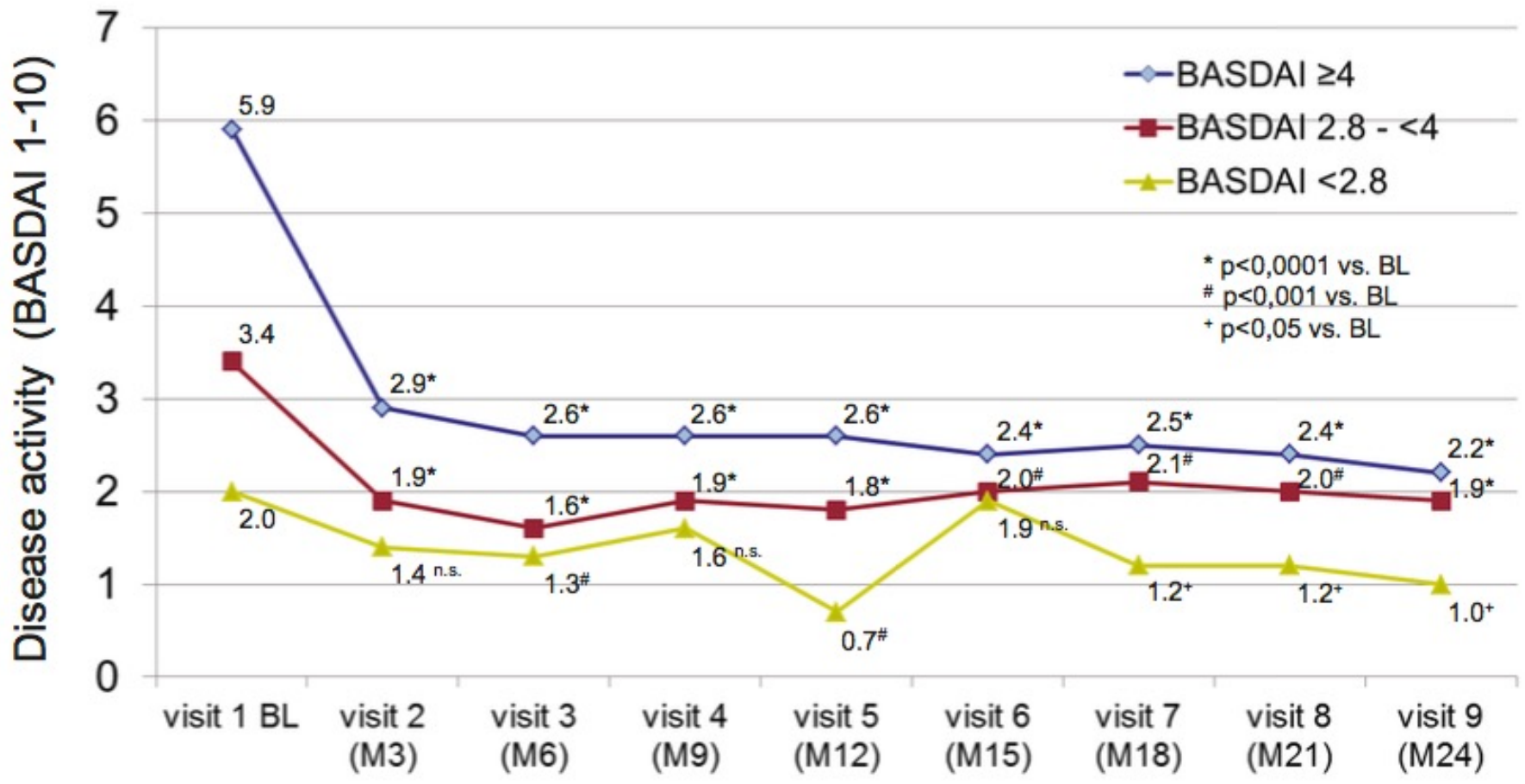
Lukas C et al. Ann Rheum Dis 2009;68:18-24 (with permission)
van der Heijde D et al. Ann Rheum Dis 2009;68:1811-8 (with permission)

ASDAS Cut-Offs for Disease Activity States



Machado P et al. Ann Rheum Dis 2011;70:47-53 (with permission)
Machado P et al. Ann Rheum Dis 2018;77:1539-40 (with permission)

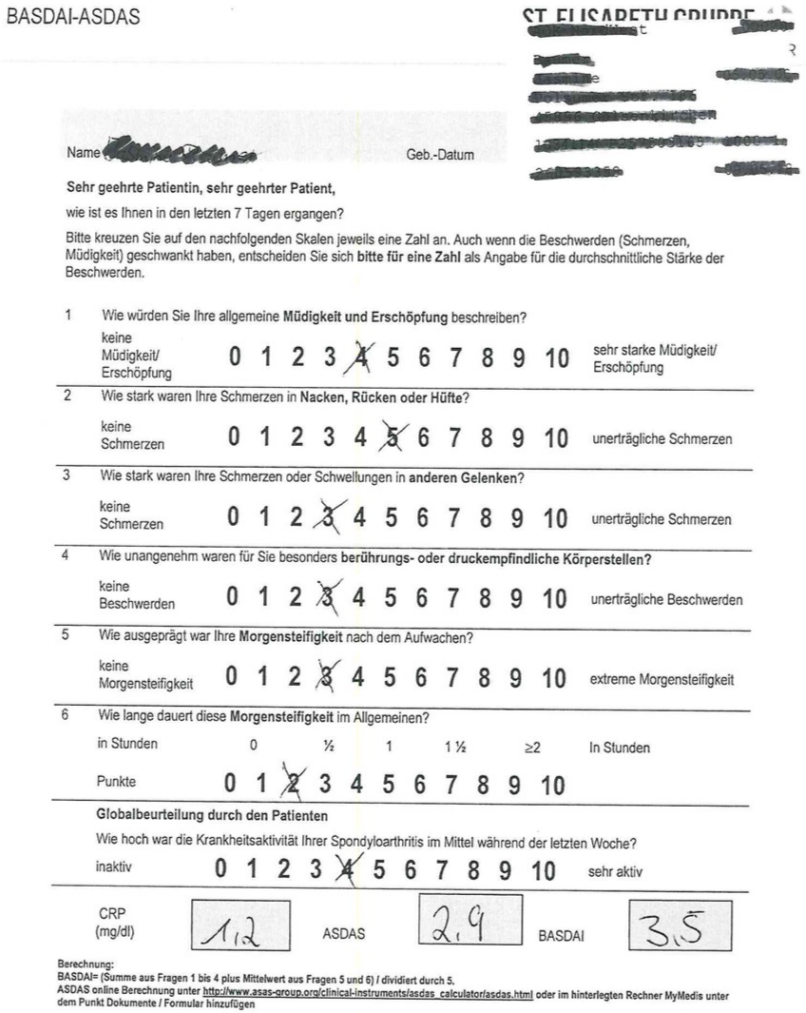
Is BASDAI ≥4/10 the right cut-off for high disease activity?



group BASDAI ≥ 4	172	157	125	108	107	103	88	88	93
group BASDAI 2.8 - <4	35	29	26	22	27	22	21	22	21
group BASDAI <2.8	37	31	30	22	24	23	21	18	20

Braun J et al, J Rheum 2018

BASDAI vs. ASDAS and the role of CRP



BASDAI-ASDAS

ST. ELISABETH GRUPPE

KATHOLISCHE KLINIKEN RHEIN-RUHR

[redacted]

Name [redacted] Geb.-Datum

Sehr geehrte Patientin, sehr geehrter Patient,

wie ist es Ihnen in den letzten 7 Tagen ergangen?

Bitte kreuzen Sie auf den nachfolgenden Skalen jeweils eine Zahl an. Auch wenn die Beschwerden (Schmerzen, Müdigkeit) geschwankt haben, entscheiden Sie sich **bitte für eine Zahl** als Angabe für die durchschnittliche Stärke der Beschwerden.

1 Wie würden Sie Ihre allgemeine **Müdigkeit und Erschöpfung** beschreiben?

keine Müdigkeit/ Erschöpfung 0 1 2 3 4 5 6 7 8 9 10 sehr starke Müdigkeit/ Erschöpfung

2 Wie stark waren Ihre Schmerzen in **Nacken, Rücken oder Hüfte?**

keine Schmerzen 0 1 2 3 4 5 6 7 8 9 10 unerträgliche Schmerzen

3 Wie stark waren Ihre Schmerzen oder Schwellungen in **anderen Gelenken?**

keine Schmerzen 0 1 2 3 4 5 6 7 8 9 10 unerträgliche Schmerzen

4 Wie unangenehm waren für Sie besonders **berührungs- oder druckempfindliche Körperstellen?**

keine Beschwerden 0 1 2 3 4 5 6 7 8 9 10 unerträgliche Beschwerden

5 Wie ausgeprägt war Ihre **Morgensteifigkeit** nach dem Aufwachen?

keine Morgensteifigkeit 0 1 2 3 4 5 6 7 8 9 10 extreme Morgensteifigkeit

6 Wie lange dauert diese **Morgensteifigkeit** im Allgemeinen?

in Stunden 0 ½ 1 1 ½ ≥2 In Stunden

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

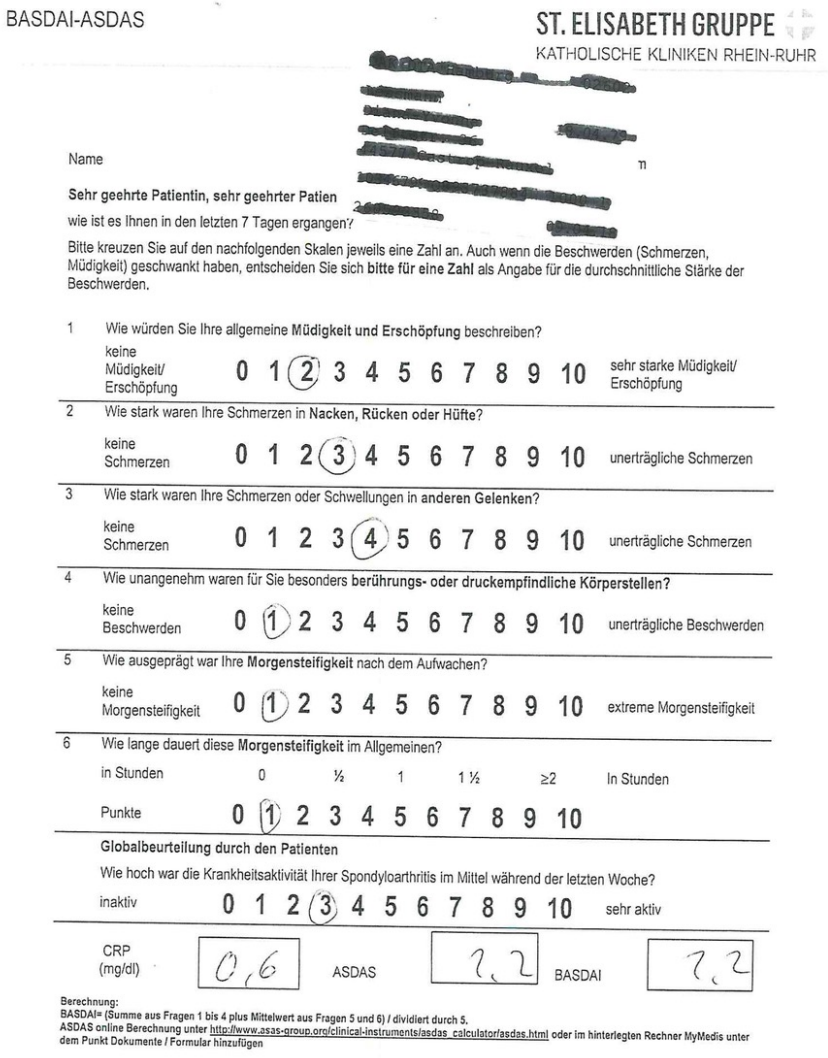
Globalbeurteilung durch den Patienten

Wie hoch war die Krankheitsaktivität Ihrer Spondyloarthritis im Mittel während der letzten Woche?

inaktiv 0 1 2 3 4 5 6 7 8 9 10 sehr aktiv

CRP (mg/dl) 1,2 ASDAS 2,9 BASDAI 3,5

Berechnung:
BASDAI= (Summe aus Fragen 1 bis 4 plus Mittelwert aus Fragen 5 und 6) / dividiert durch 5.
ASDAS online Berechnung unter http://www.asas-group.org/clinical-instruments/asdas_calculator/asdas.html oder im hinterlegten Rechner MyMedis unter dem Punkt Dokumente / Formular hinzufügen



BASDAI-ASDAS

ST. ELISABETH GRUPPE

KATHOLISCHE KLINIKEN RHEIN-RUHR

[redacted]

Name

Sehr geehrte Patientin, sehr geehrter Patien

wie ist es Ihnen in den letzten 7 Tagen ergangen?

Bitte kreuzen Sie auf den nachfolgenden Skalen jeweils eine Zahl an. Auch wenn die Beschwerden (Schmerzen, Müdigkeit) geschwankt haben, entscheiden Sie sich **bitte für eine Zahl** als Angabe für die durchschnittliche Stärke der Beschwerden.

1 Wie würden Sie Ihre allgemeine **Müdigkeit und Erschöpfung** beschreiben?

keine Müdigkeit/ Erschöpfung 0 1 2 3 4 5 6 7 8 9 10 sehr starke Müdigkeit/ Erschöpfung

2 Wie stark waren Ihre Schmerzen in **Nacken, Rücken oder Hüfte?**

keine Schmerzen 0 1 2 3 4 5 6 7 8 9 10 unerträgliche Schmerzen

3 Wie stark waren Ihre Schmerzen oder Schwellungen in **anderen Gelenken?**

keine Schmerzen 0 1 2 3 4 5 6 7 8 9 10 unerträgliche Schmerzen

4 Wie unangenehm waren für Sie besonders **berührungs- oder druckempfindliche Körperstellen?**

keine Beschwerden 0 1 2 3 4 5 6 7 8 9 10 unerträgliche Beschwerden

5 Wie ausgeprägt war Ihre **Morgensteifigkeit** nach dem Aufwachen?

keine Morgensteifigkeit 0 1 2 3 4 5 6 7 8 9 10 extreme Morgensteifigkeit

6 Wie lange dauert diese **Morgensteifigkeit** im Allgemeinen?

in Stunden 0 ½ 1 1 ½ ≥2 In Stunden

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

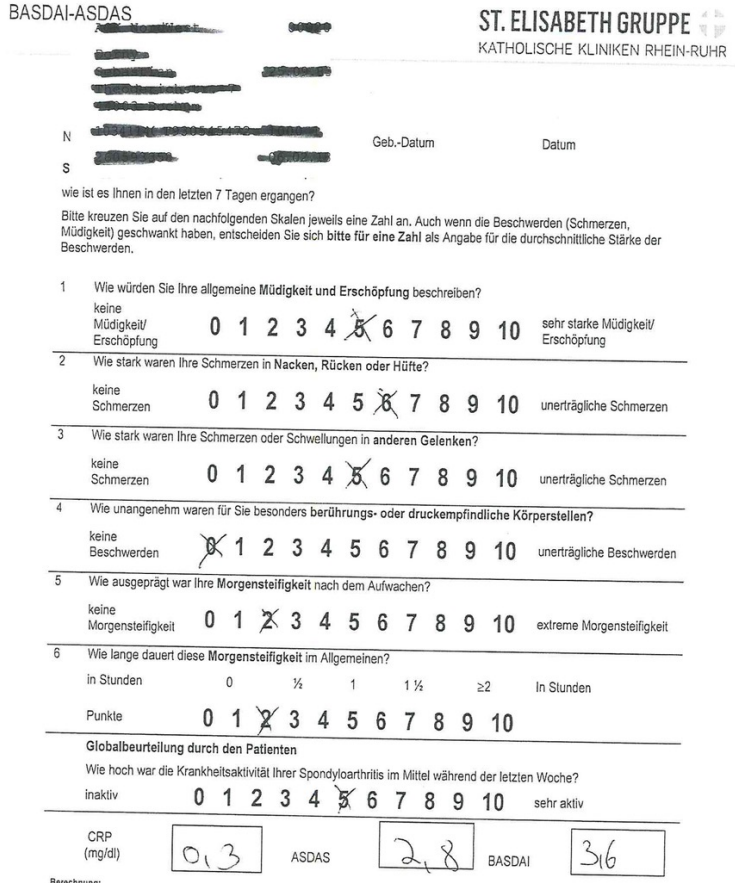
Globalbeurteilung durch den Patienten

Wie hoch war die Krankheitsaktivität Ihrer Spondyloarthritis im Mittel während der letzten Woche?

inaktiv 0 1 2 3 4 5 6 7 8 9 10 sehr aktiv

CRP (mg/dl) 0,6 ASDAS 1,2 BASDAI 1,2

Berechnung:
BASDAI= (Summe aus Fragen 1 bis 4 plus Mittelwert aus Fragen 5 und 6) / dividiert durch 5.
ASDAS online Berechnung unter http://www.asas-group.org/clinical-instruments/asdas_calculator/asdas.html oder im hinterlegten Rechner MyMedis unter dem Punkt Dokumente / Formular hinzufügen



BASDAI-ASDAS

ST. ELISABETH GRUPPE

KATHOLISCHE KLINIKEN RHEIN-RUHR

[redacted]

N

S

Geb.-Datum Datum

wie ist es Ihnen in den letzten 7 Tagen ergangen?

Bitte kreuzen Sie auf den nachfolgenden Skalen jeweils eine Zahl an. Auch wenn die Beschwerden (Schmerzen, Müdigkeit) geschwankt haben, entscheiden Sie sich **bitte für eine Zahl** als Angabe für die durchschnittliche Stärke der Beschwerden.

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keine Schmerzen 0 1 2 3 4 5 6 7 8 9 10 unerträgliche Schmerzen

3 Wie stark waren Ihre Schmerzen oder Schwellungen in **anderen Gelenken?**

keine Schmerzen 0 1 2 3 4 5 6 7 8 9 10 unerträgliche Schmerzen

4 Wie unangenehm waren für Sie besonders **berührungs- oder druckempfindliche Körperstellen?**

keine Beschwerden 0 1 2 3 4 5 6 7 8 9 10 unerträgliche Beschwerden

5 Wie ausgeprägt war Ihre **Morgensteifigkeit** nach dem Aufwachen?

keine Morgensteifigkeit 0 1 2 3 4 5 6 7 8 9 10 extreme Morgensteifigkeit

6 Wie lange dauert diese **Morgensteifigkeit** im Allgemeinen?

in Stunden 0 ½ 1 1 ½ ≥2 In Stunden

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

Globalbeurteilung durch den Patienten

Wie hoch war die Krankheitsaktivität Ihrer Spondyloarthritis im Mittel während der letzten Woche?

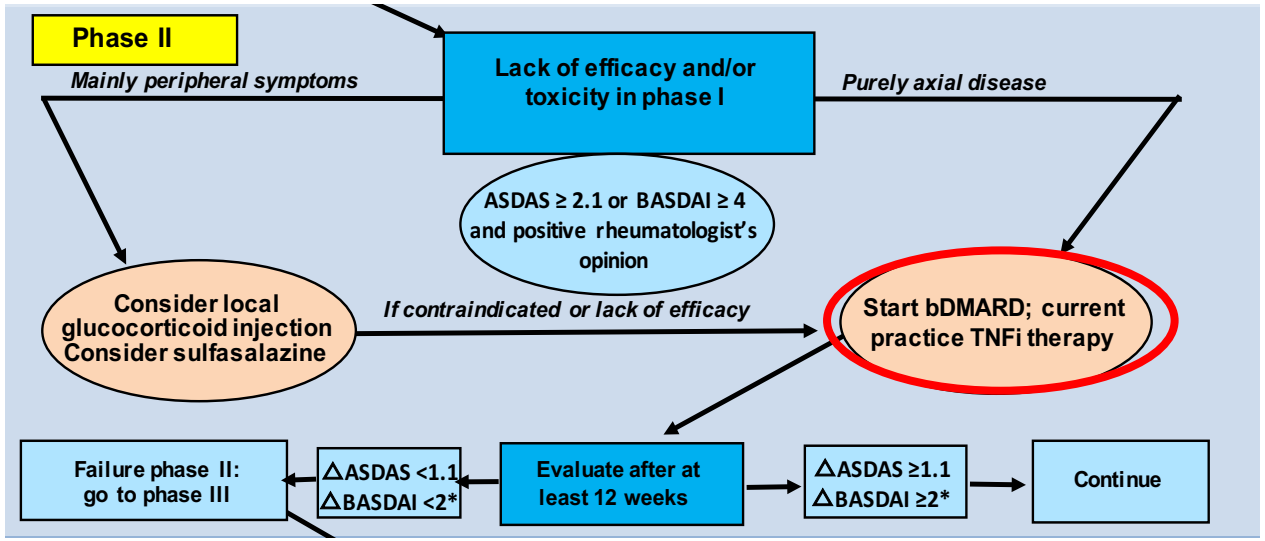
inaktiv 0 1 2 3 4 5 6 7 8 9 10 sehr aktiv

CRP (mg/dl) 0,3 ASDAS 2,8 BASDAI 3,6

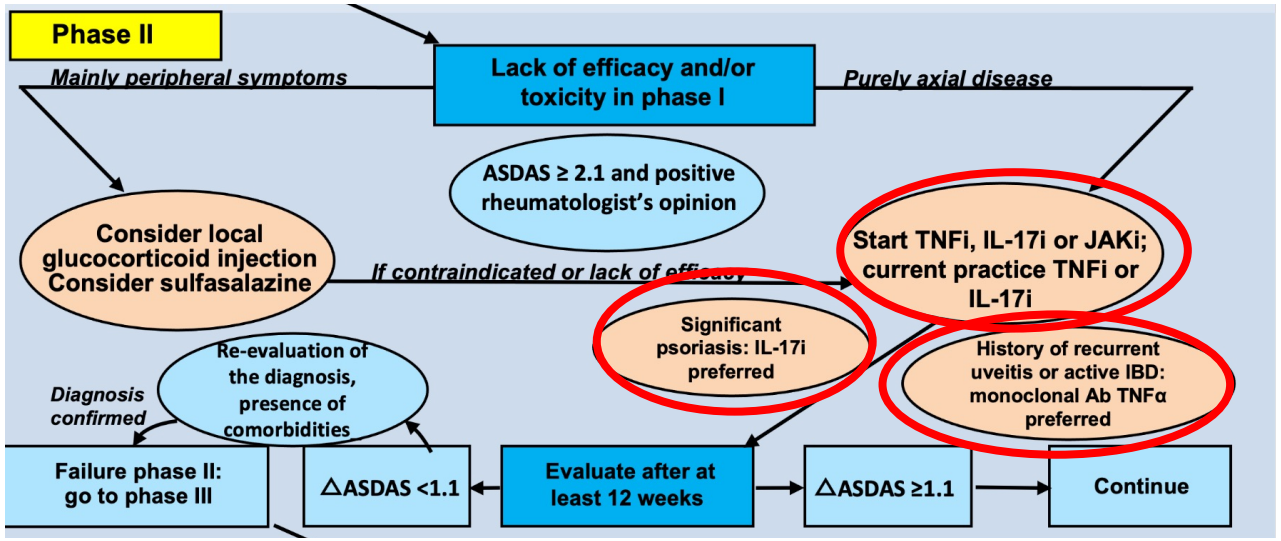
Berechnung:
BASDAI= (Summe aus Fragen 1 bis 4 plus Mittelwert aus Fragen 5 und 6) / dividiert durch 5.
ASDAS online Berechnung unter http://www.asas-group.org/clinical-instruments/asdas_calculator/asdas.html oder im hinterlegten Rechner MyMedis unter dem Punkt Dokumente / Formular hinzufügen

Comparison Phase II

2016



2022

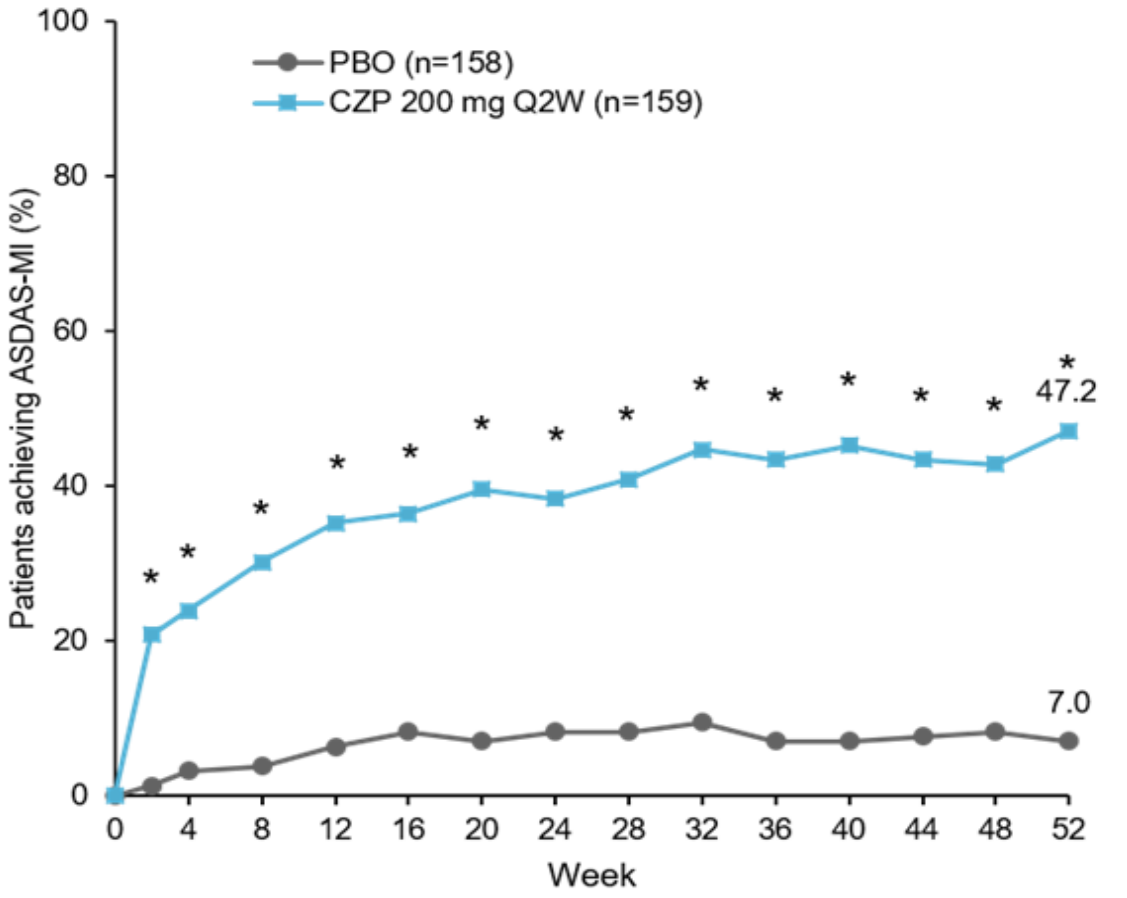


Start treatment with TNFi, IL-17i or JAKi
Current practice: TNFi, IL-17i

Uveitis or active IBD: monoclonal TNFi preferred
Psoriasis: IL17i preferred

Remission in axSpA: what can we expect from NSAIDs vs. bDMARDs?

Figure: ASDAS-MI Response to Week 52



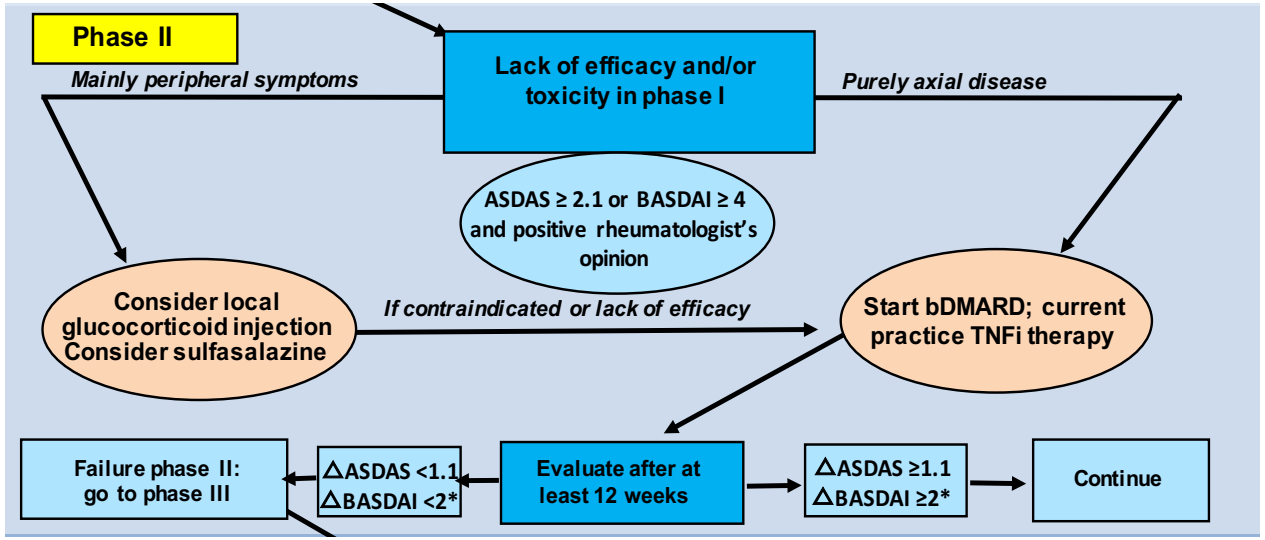
*p<0.001 CZP vs PBO. Full analysis set. Non-responder imputation. ASDAS-MI: ankylosing spondylitis disease activity score – major improvement; PBO: placebo; CZP: certolizumab pegol; Q2W: every 2 weeks.

	PBO	TNFi
Randomised patients	158	159
ASDAS-MI (Wk 52)*	7.0%	47.2%
ASDAS-MI-Wk2	1.3%	20.8%
ASAS40 (Wk 12)	11.4%	47.8%
Switch to OL CZP	60.8%	12.6%

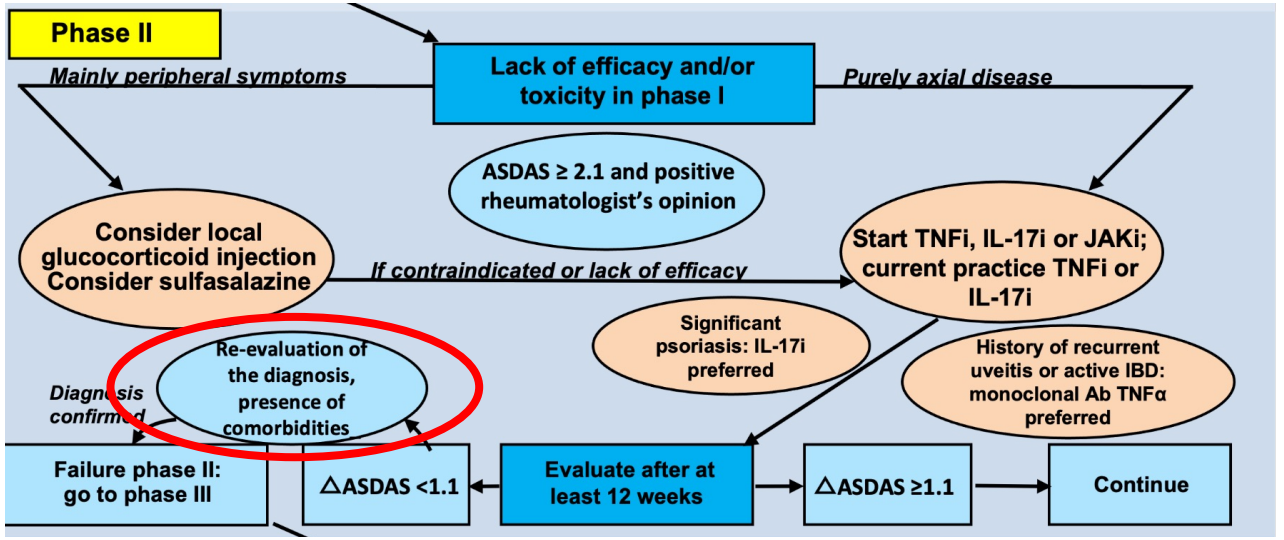
Deodhar A et al, Arthritis Rheum 2019

Changes in Phase II

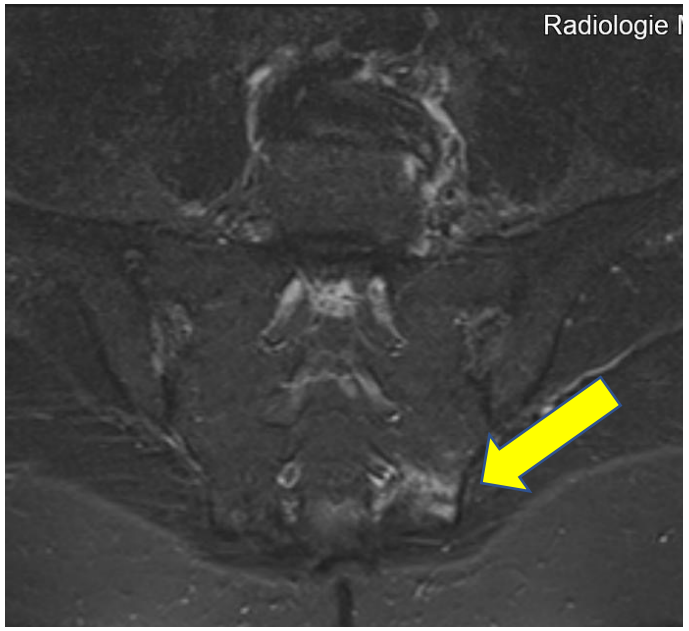
2016



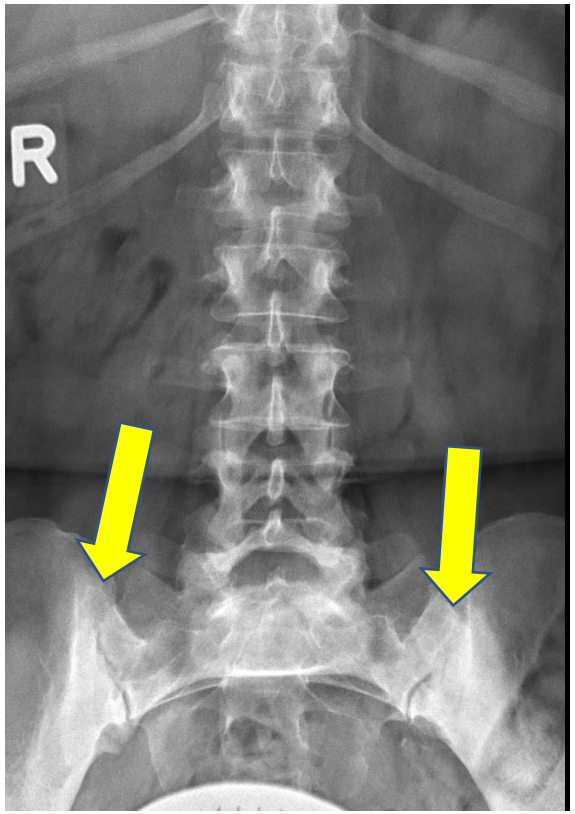
2022

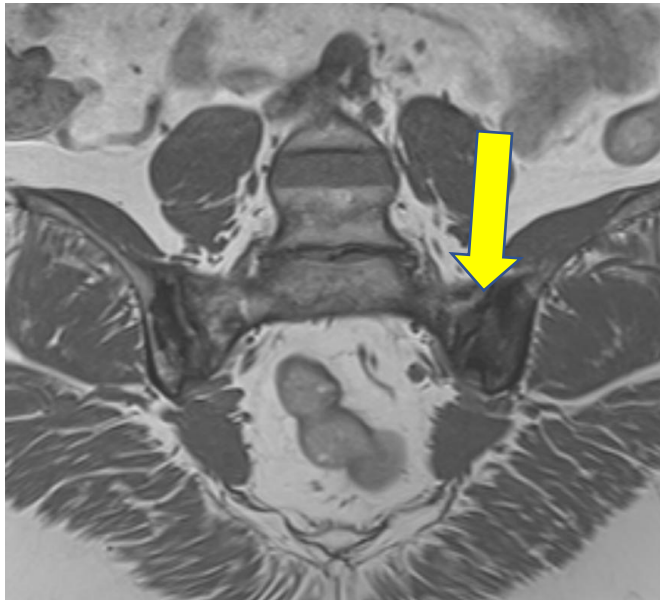


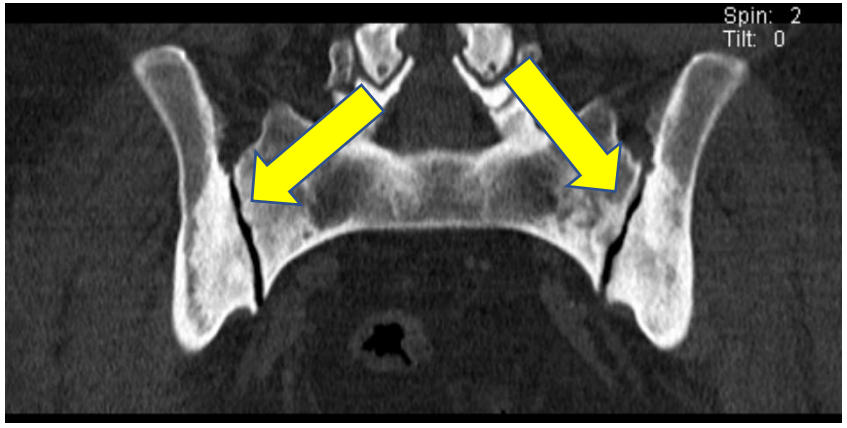
Phase II: re-evaluation of the diagnosis



Sacral fracture

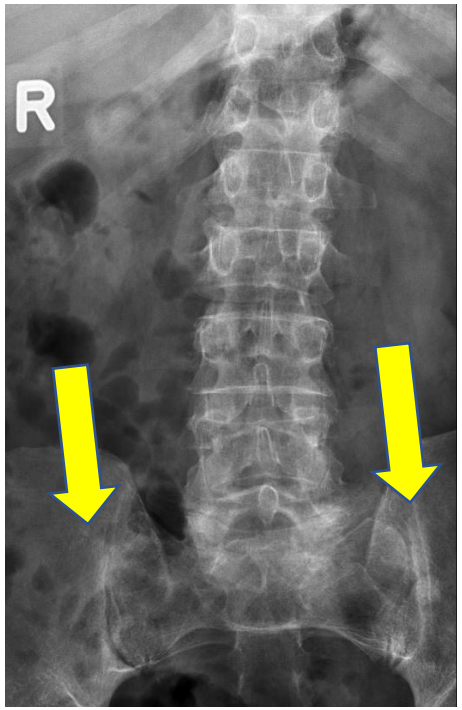


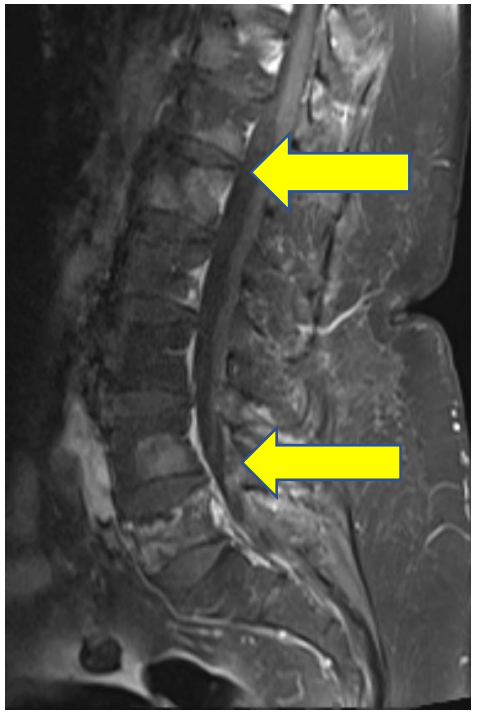


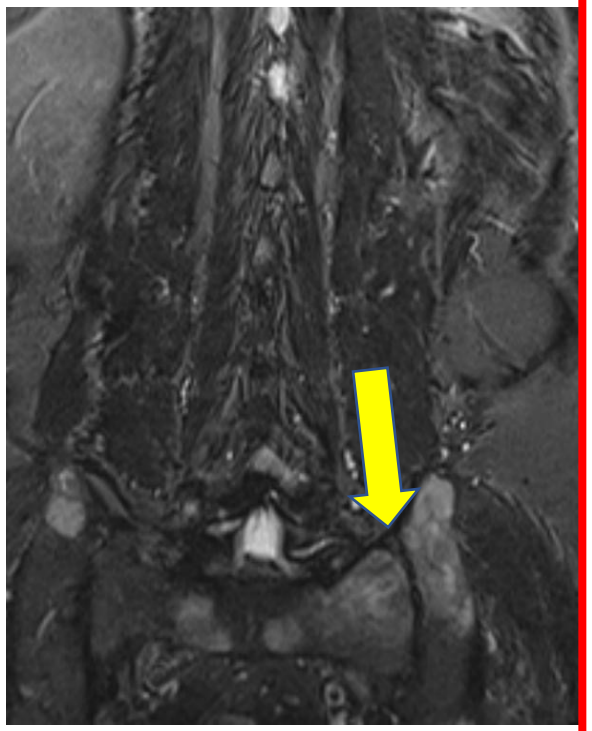


Osteitis condensans

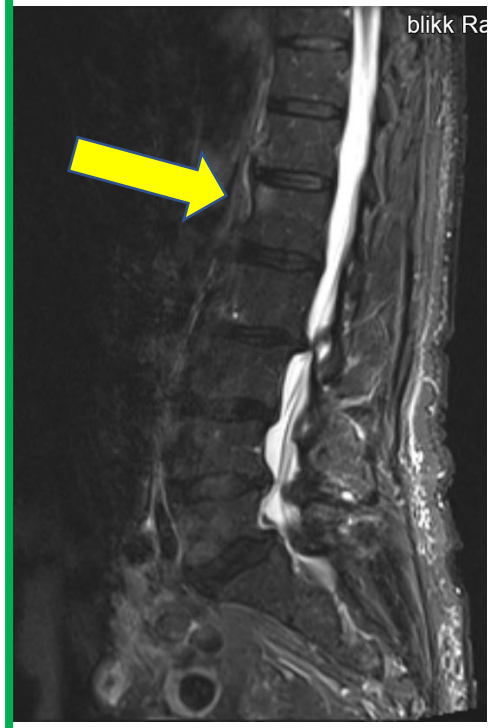
Phase II: re-evaluation of the diagnosis

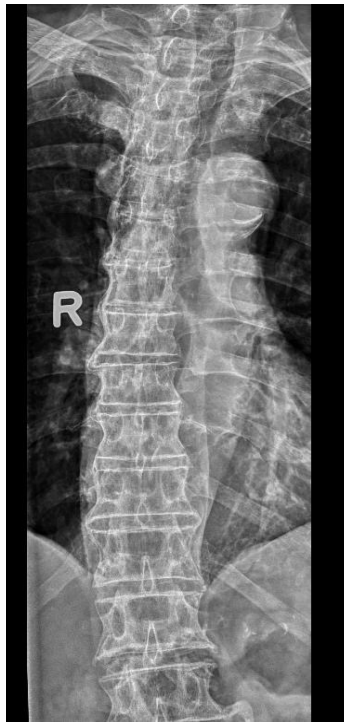






Metastatic carcinoma





DISH

Preliminary proposal of cut-offs for a positive MRI

- For active Lesions of the **spine** typical for axSpA

- Data driven cut-offs based on active lesions for defining a positive MRI of the spine consistent with axSpA are:
  - BME in ≥4 vertebral corners
  - Or
  - BME in ≥3 vertebral corners in the setting of additional inflammatory lesions at other locations or the presence of corner fat

- For active Lesions in the **SIJ** typical for axSpA

- Data driven cut-offs for defining an MRI active lesion typical of axSpA/BME highly suggestive of sacroiliitis are:

ASAS-defined BME in ≥3 consecutive slices
Or
ASAS-defined BME ≥4 SIJ quadrants

Maksymowych W et al, Rheumatology 2021
EULAR 2021, W. P. Maksymowych *et al.*, OP0251

Preliminary proposal of cut-offs for a positive MRI

- For structural Lesions Lesions in the **SIJ** in axSpA

- **Data driven cut-offs for defining an MRI structural lesion typical of axSpA are:**

ASAS-defined erosion in ≥2 consecutive slices or ASAS-defined fat lesion in ≥3 consecutive slices

Or

ASAS-defined erosion ≥3 SIJ quadrants or ASAS-defined fat lesion in ≥5 SIJ quadrants

Or

ASAS-defined fat lesion of >1cm depth in ≥2 consecutive slices

Aim: Improvement of specificity

Maksymowych W et al, Rheumatology 2021
EULAR 2021, W. P. Maksymowych *et al.*, OP0251

ASAS recommendations for requesting and reporting imaging in patients with suspected axial spondyloarthritis

- Improvement of communication between rheumatologists and radiologists
- How should rheumatologists request?
- How should radiologists report?

Imaging request	
1	The referring physician should communicate important clinical information when requesting imaging exams. This clinical information should include the patient's age, sex and HLA-B27 status.
2	Requests for imaging should include current or past history of back pain, its duration, localization, and inflammatory features, whether present or not. For follow-up exams, a change in clinical symptoms should be indicated.
3	Radiologists should be informed if the patient undertakes physically demanding activities or has history of childbirth (number of children and date of most recent childbirth).
4	Radiologists should have access to previous exam images for comparison or to the respective reports if those are not available.
5	The referral should include possible contraindications to certain types of imaging or contrast medium.
6	The referring physician should indicate the suspected clinical diagnosis and possible alternative explanations for the symptoms, whether SpA was previously diagnosed, and if the exam is requested for primary diagnosis, to assess disease activity or treatment response.

Imaging report	
Clinical data	
1	The report should start by summarising essential clinical information, including the patient's age, sex, a summary of symptoms, the suspected diagnosis, whether the exam was requested for primary diagnosis or follow-up, and what imaging was available for comparison.
Technical data	
2a	Radiography: The report should include the number of images, types of projections, and the patient's positioning.
2b	MRI: The report should include the applied field strength and sequences with slice orientation and thickness, if fat suppression was applied, and whether and what type of contrast medium was administered.
2c	CT: The report should include the patient's position, reconstructions' orientation and slice thickness, and a general indicator for the radiation dose (e.g., dose length product).
3	The anatomical coverage of the exam should be indicated.
4	The report should include a general statement about image quality and complications from imaging, particularly if the exam or its interpretation is affected.

Report	
5a	SIJ: Bone marrow oedema/osteitis, erosions and fat lesions are significant findings that the report should list semi-quantitatively with their localization specified. Their absence should be stated clearly.
5b	SIJ: The report should include if other active or structural lesions are present. Structural lesions should be reported per individual bone. The radiologists can summarize the absence of those active or structural lesions in the report.
6a	Spine: The report should semi-quantitatively list bone marrow oedema/osteitis at vertebral corners. All other active and structural lesions should be mentioned if present.
6b	Spine: The location of the findings mentioned above is essential for clinical correlation, and it should be stated at the level of the individual vertebra or discovertebral unit.
7	Findings unrelated to SpA but of potential clinical importance should be mentioned when present. These include for example gas inside the joint ("vacuum phenomenon"), osteophytes, transitional vertebrae, anatomical variations, and spinal malposition.
Conclusion	
8	The radiologist should state clearly if findings are compatible with SpA, based on the images and clinical information available. The conclusion should provide whether there is active inflammation or structural changes with the most prominent lesions, and give an indication of the confidence in interpretation of the findings.
9	Based on the exam findings, differential diagnoses and their probability should be mentioned, especially if more likely than SpA.
10	If the exam findings are inconclusive, radiologists should suggest further imaging according to their expertise.
11	If the exam is indicative of SpA and a rheumatologist did not request the imaging investigation, the report should recommend referral to a rheumatologist for further assessment.

Diekhoff T. et al, EULAR 2022 OP0150

Impact of obesity on response to bDMARDS in axSpA

Table 2 Crude response rates at 1 year of treatment with a first TNF inhibitor after stratification for different BMI categories

Outcome	$n = 531$	BMI category			p
		Normal $n = 282$	Overweight $n = 178$	Obese $n = 71$	
ASAS40	494	44%	34%	29%	0.02
ASAS40 TNFi other than INF	383	45%	34%	24%	0.008
ASAS40 TNFi: INF	111	42%	36%	44%	0.83
ASAS partial remission	531	39%	24%	17%	<0.001
BASDAI-50	488	48%	40%	33%	0.06
ASDAS improvement ≥1.1	423	59%	46%	37%	0.003
ASDAS <2.1	468	56%	41%	25%	<0.001
ASDAS improvement ≥2	423	25%	25%	13%	0.14
ASDAS <1.3	468	29%	15%	10%	<0.001

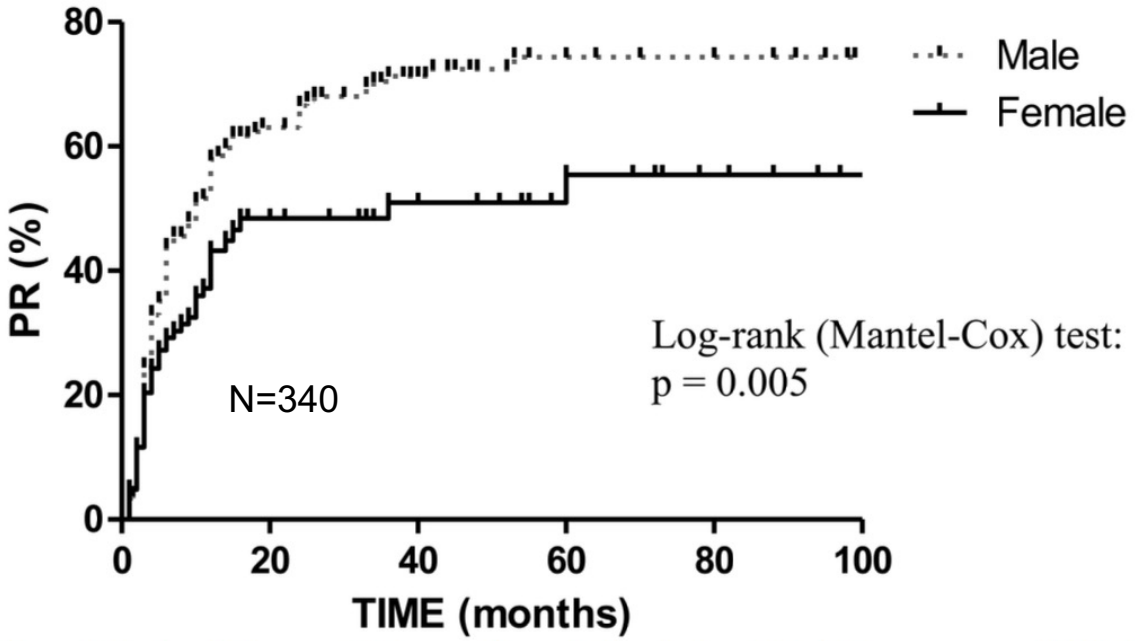
Normal weight = BMI 18.5–25; overweight = BMI 25–30; obese = BMI >30

ASAS Assessment in SpondyloArthritis International Society, *ASAS40* 40% improvement according to ASAS, *ASDAS* Ankylosing Spondylitis Disease Activity Score, *BASDAI-50* 50% improvement in Bath Ankylosing Spondylitis Disease Activity Index, *BMI* body mass index, *INF* infliximab, *TNFi* tumor necrosis factor inhibitor

Micheroli R et al, Arthr Res Ther 2017

Gender differences on response to TNFi

Patients in partial remission



Lubrano E et al, J Rheumatol 2018

Analysis from SCQM

		Adjusted Model 2**		
Outcome	N	OR	95% CI	p
ASAS20	175	0.31	0.12–0.80	0.02
ASAS40	175	0.45	0.20–1.02	0.06
ASDAS improve ≥ 1.1	167	0.21	0.06–0.67	0.01
ASDAS < 2.1	167	0.27	0.10–0.68	0.007
ASDAS improve ≥ 2	167	0.27	0.09–0.70	0.01
ASDAS < 1.3	167	0.11	0.03–0.36	< 0.001

Hebeisen M et al, J Rheumatol 2018

Effect of bDMARDs in axSpA depending on secondary FM

Table 2 Effectiveness endpoints of the main analysis using the FiRST definition for fibromyalgia

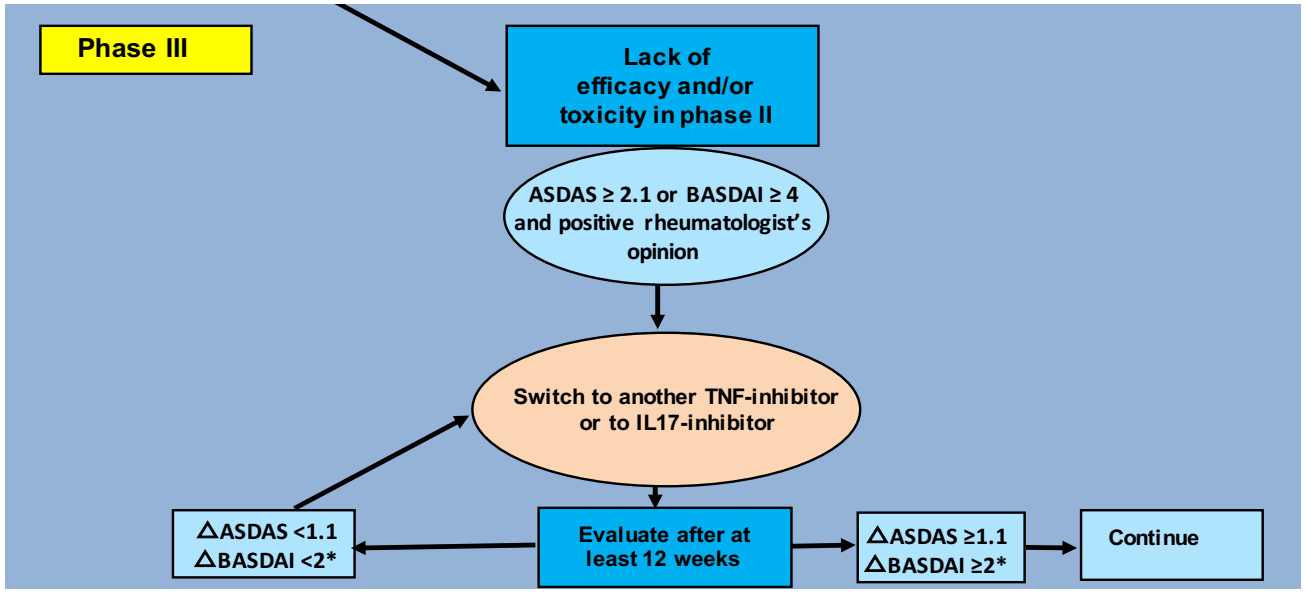
Effectiveness endpoint	All patients n=508 (%)	Fibromyalgia† Yes n=192 (%)	Fibromyalgia† No n=316 (%)	Crude OR (95% CI)‡	P value*	Adjusted OR (95% CI)§	P value
BASDAI response¶	258/508 (50.8)	87/192 (45.3)	171/316 (54.1)	0.7 (0.5 to 1.0)	NS	0.7 (0.5 to 1.1)	NS
ASAS 40	201/508 (39.6)	55/192 (28.6)	146/316 (46.2)	0.5 (0.3 to 0.7)	<0.001	0.5 (0.3 to 0.8)	0.001
ASAS 20	268/508 (52.8)	83/192 (43.2)	185/316 (58.5)	0.5 (0.4 to 0.8)	<0.001	0.6 (0.4 to 0.9)	0.008
ASDAS MI	117/508 (23.0)	36/192 (18.7)	81/316 (56.3)	0.7 (0.4 to 1.0)	NS	0.8 (0.5 to 1.3)	NS
ASDAS CII	265/508 (52.2)	87/192 (45.3)	178/316 (56.3)	0.6 (0.5 to 0.9)	0.02	0.7 (0.5 to 1.1)	NS
ΔNSAID score ≥50%	235/508 (46.3)	69/192 (35.9)	166/316 (52.5)	0.5 (0.4 to 0.7)	<0.001	0.6 (0.4 to 0.8)	0.003
ΔCRP >0 mg/L	325/508 (64.0)	112/192 (58.3)	213/316 (67.4)	0.7 (0.5 to 1.0)	NS	0.7 (0.5 to 1.2)	NS
ASDAS MDA at 12 weeks	264/508 (52.0)	74/192 (38.5)	190/316 (60.1)	0.4 (0.3 to 0.6)	<0.001	0.5 (0.3 to 0.7)	<0.001
ASDAS ID at 12 weeks	126/508 (24.8)	28/192 (14.6)	98/316 (31.0)	0.4 (0.2 to 0.6)	<0.001	0.4 (0.3 to 0.7)	<0.001
NSAID score ≤10 at 12 weeks	401/508 (78.9)	140/192 (72.9)	261/316 (82.6)	0.6 (0.4 to 0.9)	0.01	0.6 (0.4 to 0.9)	0.02
CRP <6 mg/L at 12 weeks	392/508 (77.2)	145/192 (75.5)	247/316 (78.2)	0.9 (0.6 to 1.3)	NS	0.7 (0.5 to 1.2)	NS

*Statistical significance was established for P<0.05.
†Fibromyalgia according to the FiRST questionnaire.
‡Crude OR: result of the univariable analysis.
§Adjusted OR for age (below 40), gender (male), past or present X-ray sacroiliitis, past or present MRI sacroiliitis, abnormal CRP, smoking status, HLA B27 and absence of previous TNFb exposure.
¶Data in the table are presented as number and (%).

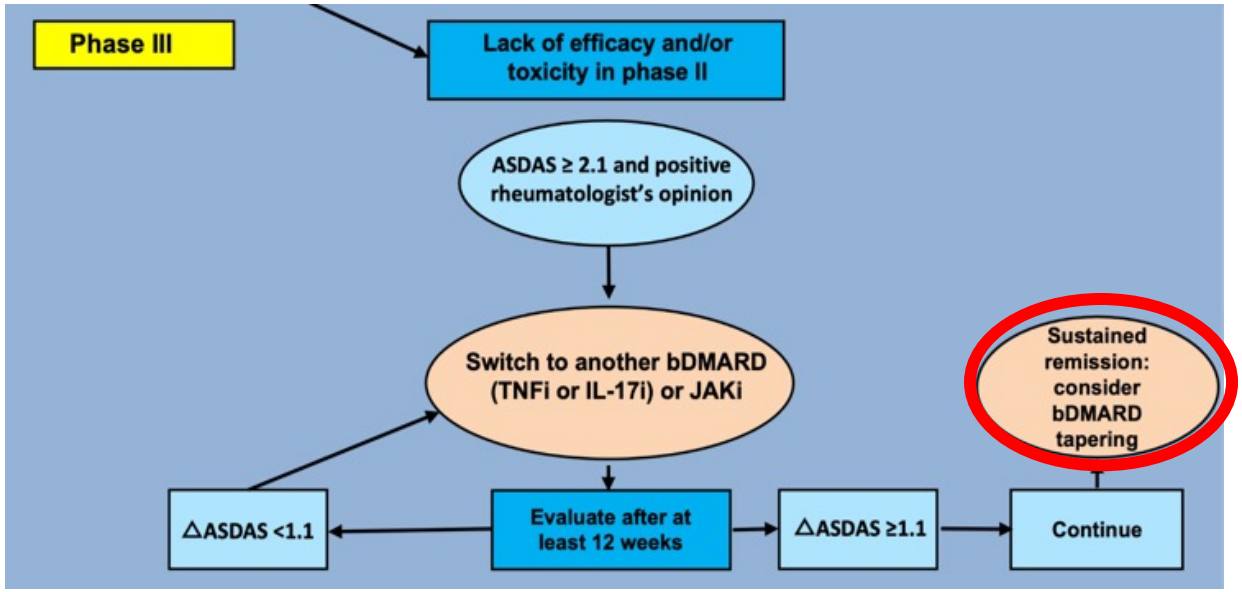
Molto A et al, Ann Rheum Dis 2018

Changes in Phase III

2016

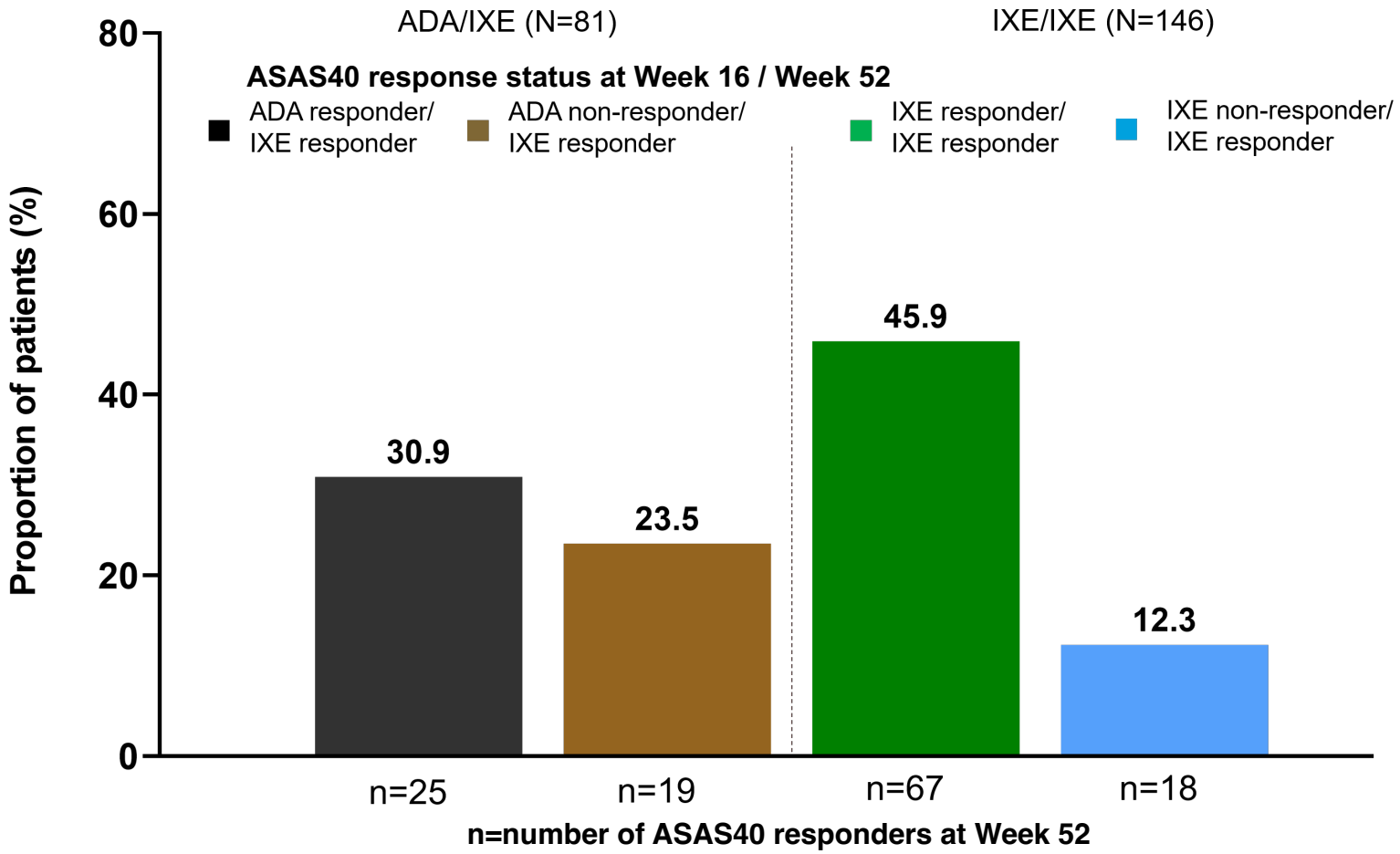


2022



Tapering (Dose reduction/ interval increase) can be considered after reaching sustained remission

ASAS40 response after 52 weeks by initial response to TNF inhibitor or IL-17 inhibitor

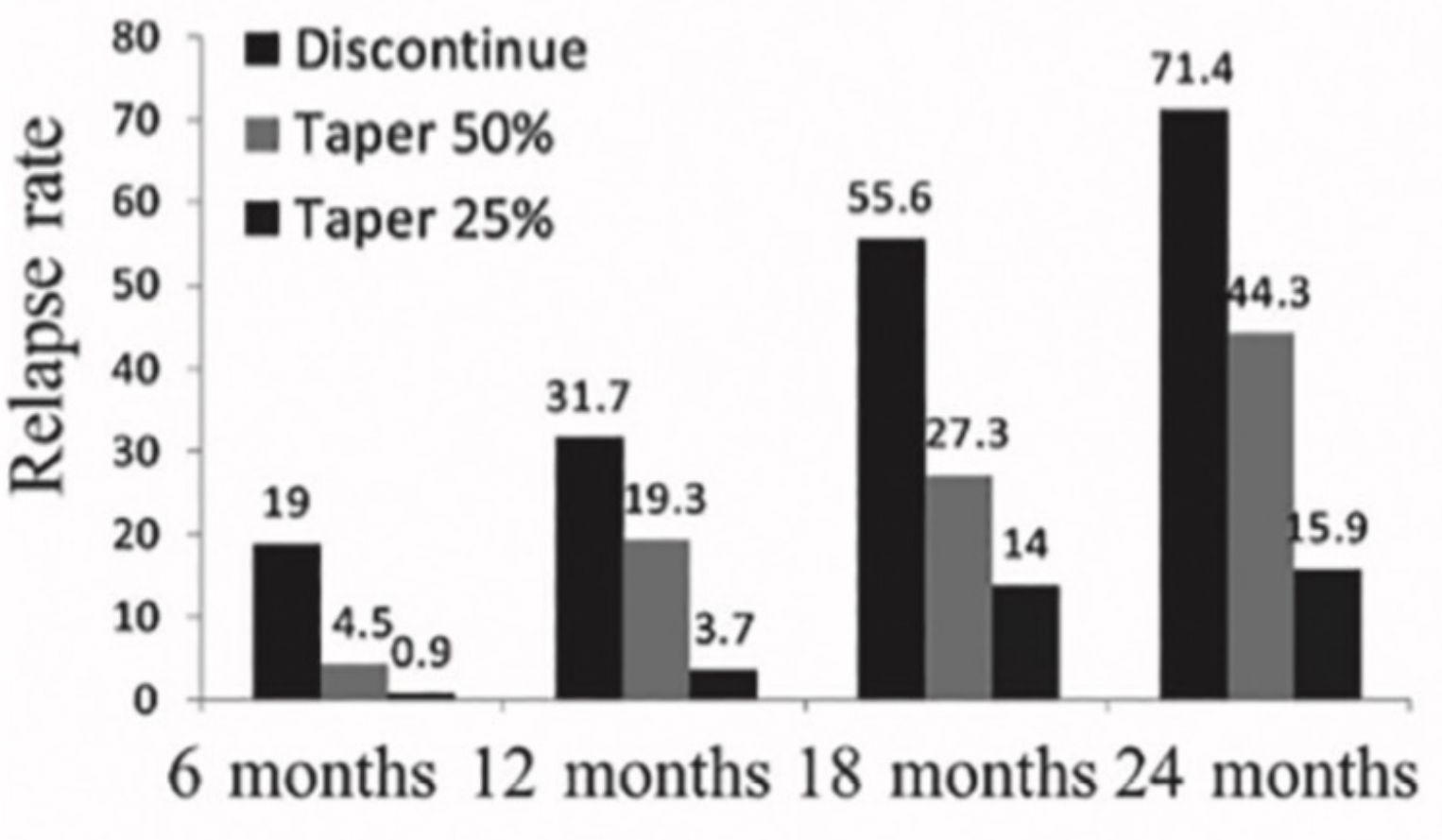


Patients in extended treatment period population initially randomized to adalimumab (N=81) or ixekizumab (N=146); data for the 2 IXE dose groups were pooled

Baraliakos X, et al. Arthritis Rheumatol 2020;72(suppl 10);Abst. 1904

Efficiency of dose reduction strategy of TNFi in patients with AS

N=248
Etanercept 50mg/wk



Lian F et al, Clin Exp Rheumatol 2018

OP0017: Recapture rates with ixekizumab after withdrawal of therapy in patients with axial SpA: results at week 104 from a randomized placebo-controlled withdrawal study

Studienziel:

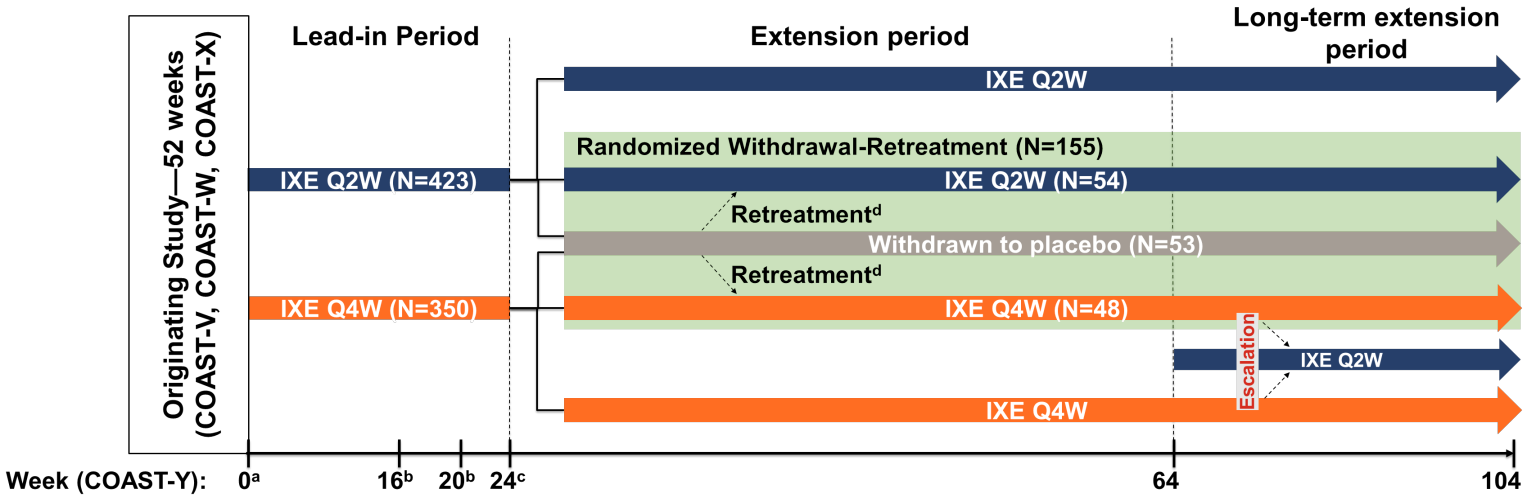
- Auswirkungen der Fortführung bzw. des Absetzens des IL-17A-Antagonisten Ixekizumab (IXE) auf die Aufrechterhaltung der Krankheitskontrolle über 104 Wochen

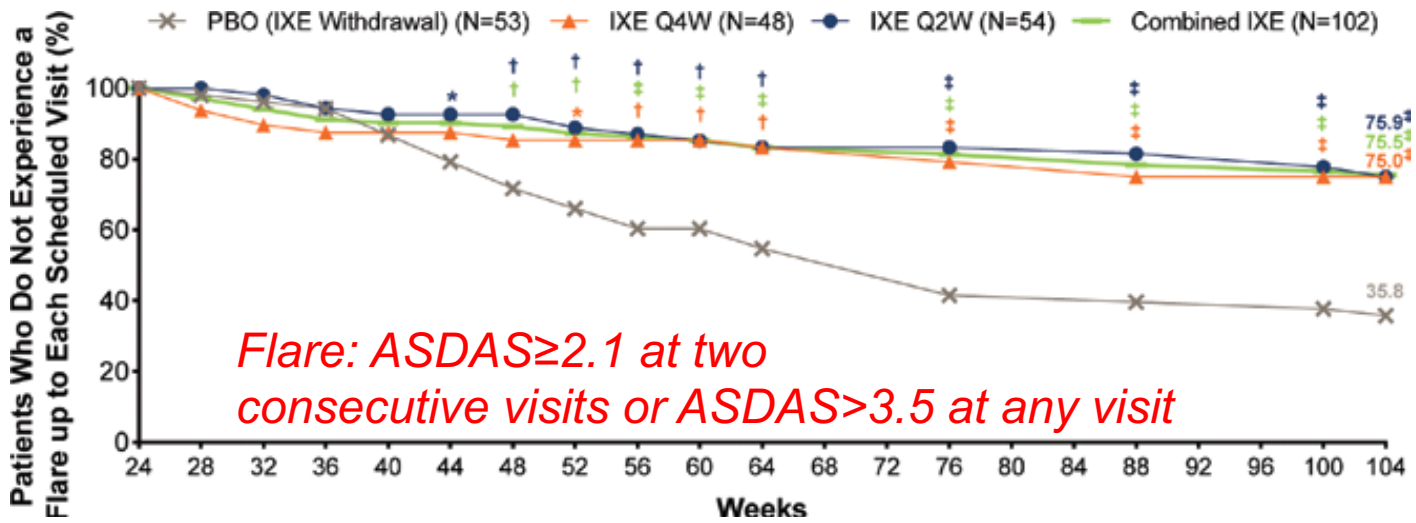
Lead-in period

- 773 patients enrolled
- 741 completed 24 week lead in period
- 155 met the criteria for remission

Week 104

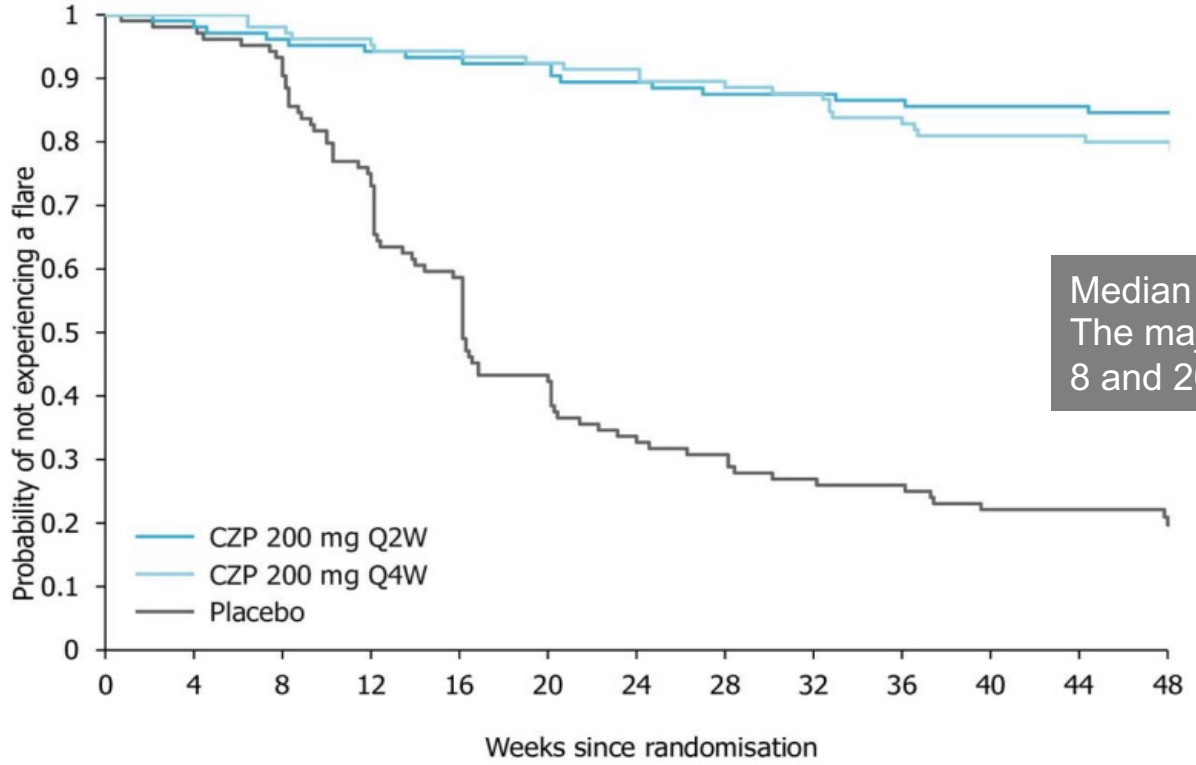
- 138 completed week 104
- Significantly more patients in IXE remained flare-free through week 104
- Notably, 35.8% of patients on PBO never experienced flare
- State of remission were recaptured by 71% of patients who flared





Landewe R al. Ann Rheum Dis 2022

Risk of clinical relapse: Dose reduction vs continuous dosing



Patients at risk

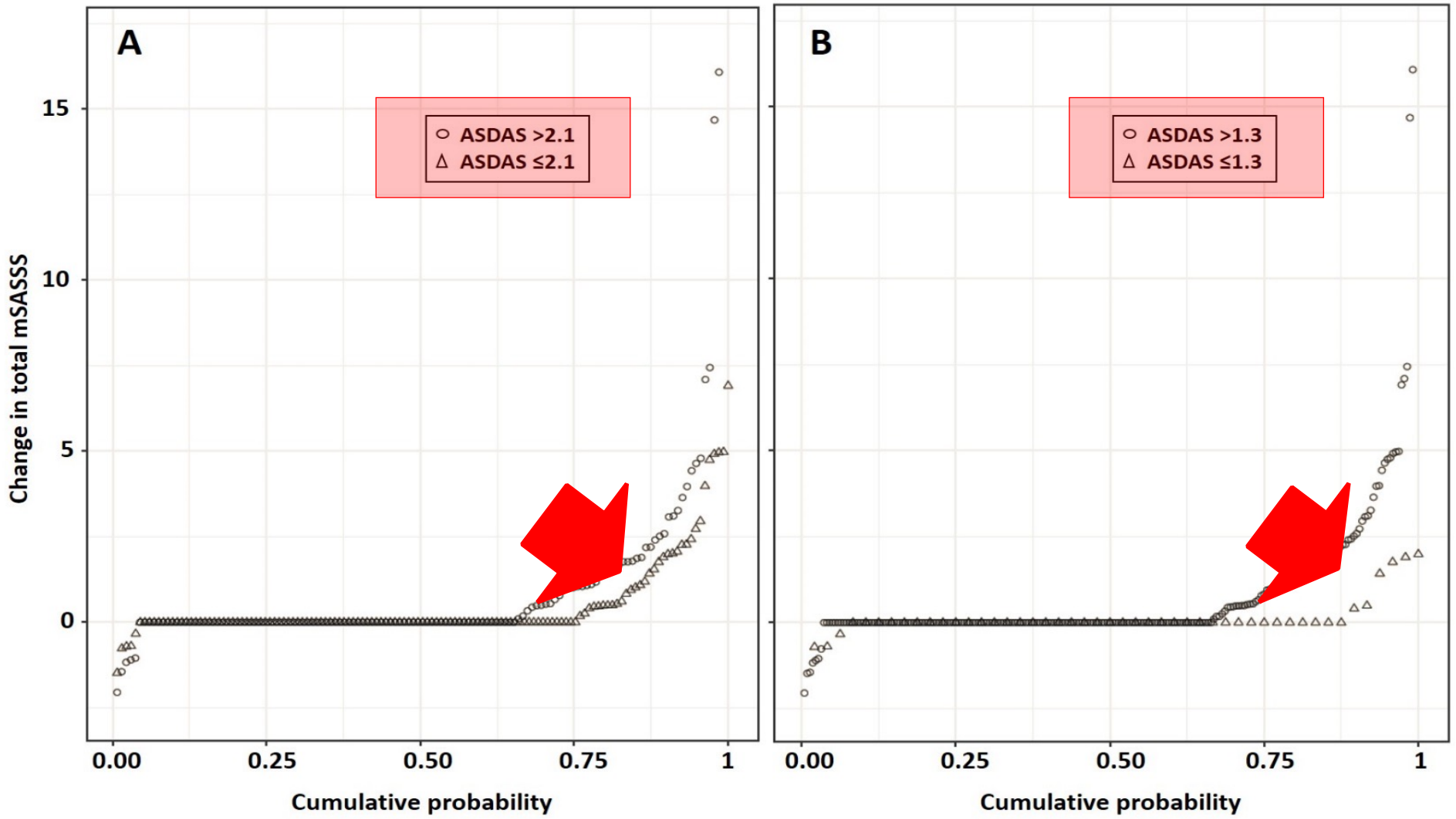
CZP 200 mg Q2W	104	103	100	98	97	96	93	91	91	90	89	88	73
CZP 200 mg Q4W	105	105	103	101	99	97	96	94	92	88	85	85	67
Placebo	104	102	97	78	61	45	35	32	28	27	23	23	17

Median time to flare in placebo arm: 113 days
The majority of flares occurred between 8 and 20 weeks post-randomisation

Patients who achieved sustained remission: ASDAS <1.3 at Week 32 or 36, and at Week 48 (with ASDAS <2.1 for Weeks 32 and 36) of a 48-week open-label induction period (CZP 200 mg Q2W)
Flare was defined as ASDAS ≥2.1 at two consecutive visits or ASDAS >3.5 at any visit during the 48-week double-blind maintenance period

Landewé RBM, et al. Ann Rheum Dis 2020;79:920–8

bDMARDs inhibit spinal radiographic progression in AS by reducing disease activity



Data courtesy of Xenofon Baraliakos, Ruhr-University Bochum, Rheumazentrum Ruhrgebiet Herne, Herne, Germany

Θεραπευτική στρατηγική στην αξονική σπονδυλαρθρίτιδα

4° ΔΙΑΠΑΝΕΠΙΣΤΗΜΙΑΚΟ ΠΡΟΓΡΑΜΜΑ ΕΚΠΑΙΔΕΥΣΗΣ ΣΤΗ ΡΕΥΜΑΤΟΛΟΓΙΑ 2022-24

08.10.2022

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