

## Calculating the Ankylosing Spondylitis Disease Activity Score If the Conventional C-Reactive Protein Level Is Below the Limit of Detection or If High-Sensitivity C-Reactive Protein Is Used: An Analysis in the DESIR Cohort

Pedro Machado, Victoria Navarro-Compán, Robert Landewé, Floris A. van Gaalen, Christian Roux, Désirée van der Heijde

Article first published online: 28 JAN 2015, DOI: 10.1002/art.38921

Arthritis Rheumatol. 2015 Feb;67(2):408-13. PubMed PMID: 25332195.

### SUPPLEMENTARY MATERIAL:

**Supplementary table 1** Summary of the baseline clinical and demographic characteristics of the study population (n=257)\*

Male, no (%)	121 (47.1)
Caucasian, no (%)	234 (91.1)
Age, years	33.2 (8.8)
HLA-B27 positive, no (%)	191 (89.7)
ASDAS-hsCRP	2.0 (0.8)
ASDAS-ESR†	2.2 (0.9)
hsCRP, mg/L	1.7 (1.4)
ESR†, mmHg	8.2 (6.9)
BASDAI (0-10 scale)	4.0 (2.1)
Patient global assessment (0-10 scale)	4.6 (2.7)
Physician global assessment (0-10 scale)	3.9 (2.2)
BASMI (0-10 scale)	2.2 (0.9)
BASFI (0-10 scale)	2.6 (2.2)

\*Except were indicated otherwise, values are the mean (standard deviation).  
†ESR was not available in 4.3% (11/257) of the patients. ASDAS, Ankylosing Spondylitis Disease Activity Score; BASDAI, Bath Ankylosing Spondylitis Disease Activity Index; BASMI, Bath Ankylosing Spondylitis Metrology Index; BASFI, Bath Ankylosing Spondylitis Functional Index; CRP, C-reactive protein; hsCRP, high sensitivity CRP; ESR, erythrocyte sedimentation rate.

**Supplementary table 2** Percentage and causes of disagreement in ASDAS disease activity states using ASDAS-hsCRP and other ASDAS formulae (ASDAS-cCRP with multiple imputation strategies\* and ASDAS-ESR)

ASDAS formulae	ASDAS-hsCRP
	<b>ASDAS disease activity states, percentage and causes of disagreement</b>
<b>ASDAS-CRP(0)</b>	<b>Disagreement: 46.7%</b> MDA → ID: 21.0%; HDA → ID: 2%; HDA → MDA: 20.6%; VHDA → HAD: 3.1%
<b>ASDAS-CRP(0.5)</b>	<b>Disagreement: 25.0%</b> ID → MDA: 0.4%; MDA → ID: 12.5%; MDA → HAD: 0.4%; HDA → MDA: 8.6%; HAD → ID: 0.4%; VHDA → HAD: 2.7%
<b>ASDAS-CRP(1)</b>	<b>Disagreement: 24.4%</b> ID → MDA: 3.1%; MDA → ID: 10.1%; MDA → HAD: 2.3%; HDA → MDA: 6.2%; HAD → ID: 0.4%; VHDA → HAD: 2.3%
<b>ASDAS-CRP(1.5)</b>	<b>Disagreement: 21.9%</b> ID → MDA: 5.1%; MDA → ID: 5.4%; MDA → HAD: 4.7%; HDA → MDA: 4.7%; HAD → ID: 0.4%; HDA → VHDA: 0.4%; VHDA → HAD: 1.2%
<b>ASDAS-CRP(2)</b>	<b>Disagreement: 21.8%</b> ID → MDA: 6.6%; MDA → ID: 2.7%; MDA → HAD: 6.6%; HDA → MDA: 4.3%; HDA → VHDA: 1.2%; VHDA → HAD: 0.4%
<b>ASDAS-CRP(2.5)</b>	<b>Disagreement: 25.3%</b> ID → MDA: 10.9%; MDA → ID: 1.6%; MDA → HAD: 8.2%; HDA → MDA: 2.3%; HDA → VHDA: 1.9%; VHDA → HAD: 0.4%
<b>ASDAS-CRP(3)</b>	<b>Disagreement: 29.1%</b> ID → MDA: 13.2%; MDA → ID: 0.4%; MDA → HAD: 10.1%; HDA → MDA: 1.9%; HDA → VHDA: 3.1%; VHDA → HAD: 0.4%
<b>ASDAS-CRP(3.5)</b>	<b>Disagreement: 31.6%</b> ID → MDA: 14.8%; MDA → ID: 0.4%; MDA → HAD: 11.3%; HDA → MDA: 0.8%; HDA → VHDA: 4.3%
<b>ASDAS-CRP(4)</b>	<b>Disagreement: 34.3%</b> ID → MDA: 15.6%; MDA → ID: 0.4%; MDA → HAD: 13.2%; HDA → MDA: 0.8%; HDA → VHDA: 4.3%
<b>ASDAS-CRP(4.5)</b>	<b>Disagreement: 35.8%</b> ID → MDA: 17.5%; MDA → HAD: 10.1%; HDA → MDA: 2%; HDA → VHDA: 6.2%
<b>ASDAS-CRP(5)</b>	<b>Disagreement: 43.6%</b> ID → MDA: 17.9%; MDA → HAD: 18.7%; HDA → MDA: 0.4%; HDA → VHDA: 6.6%
<b>ASDAS-ESR</b>	<b>Disagreement: 28.1%</b> ID → MDA: 7.7%; MDA → ID: 3.3%; MDA → HAD: 8.5%; HDA → MDA: 3.3%; HDA → VHDA: 4.1%; VHDA → HAD: 1.2%

\*ASDAS-CRP(0) to ASDAS-CRP(5) represents the ASDAS-CRP results with eleven imputation strategies for the conventional CRP, from 0 to 5mg/L, at 0.5mg/L intervals. ASDAS, Ankylosing Spondylitis Disease Activity Score; CRP, C-reactive protein; ESR, erythrocyte sedimentation rate; hs, high sensitivity; ID, inactive disease; MDA, moderate disease activity; HAD, high disease activity; VHDA, very high disease activity. The total number of patients is 257, except for the ASDAS-ESR analysis where the total number of patients is 246.

**Supplementary figure 1** Graphic displaying the results of the CRP component of the ASDAS-CRP formula ( $0.58 \cdot \ln(\text{CRP}+1)$ ) according to the CRP value, from 0 to 5mg/L, at 0.1 mg/L intervals.

