

## THE BATH AS FUNCTIONAL INDEX (BASFI)

(Calin et al, 1994)

The BASFI is a set of 10 questions designed to determine the degree of functional limitation in those with AS. The research team recognised that although treatment is focused on pain control and the improvement of function, the available methods of assessing function were not specific to AS and were inadequately validated. The team also state that:

**“after pain and stiffness, one of the most important complaints of patients with AS is disability.”**

(Calin et al, 1994, p2281).

The ten questions were chosen with a major input from patients with AS. The first 8 questions consider activities related to functional anatomy. The final 2 questions assess the patients' ability to cope with everyday life.

A 10cm visual analog scale is used to answer the questions (refer to page 11). The authors believe that this improves both the sensitivity of the index to change and its capacity to elicit a range of responses across the entire scale (Calin et al, 1994). The mean of the ten scales gives the BASFI score – a value between 0 and 10.

Using a sample of 47 inpatients and 116 outpatients, the authors compared the BASFI with the Dougados functional index. Results showed:

- 1) BASFI and Dougados took an equivalent amount of time to complete (100 secs max.).
- 2) Subjects expressed no preference for either instrument.
- 3) The BASFI scores illustrated a better distribution – 0 to 9.5 compared with 0 to 6.5 for Dougados.
- 4) The reproducibility of both scores was statistically significant ( $p < 0.001$ ).
- 5) Inter-observer reliability was statistically significant ( $p < 0.001$ ) for both scores.
- 6) Over a 3 week treatment period:
  - the BASFI scores demonstrated a significant ( $p = 0.004$ ) 19.6% improvement
  - however the 5.9% improvement in the Dougados scores was insignificant.

(Calin et al, 1994).

Results 3 and 6 demonstrate the benefits of the BASFI over the Dougados index. “The BASFI scores produced a normal distribution which covered 95% of the total scale whereas the Dougados functional index used only 65% of the total range” (Calin et al, 1994, 2285). Perhaps this can be explained through the use of the visual analog scale. The Dougados index only gives patients three choices of answer to the question “can you?” of the 20 activities listed. The choices being:

- “Yes, with no difficulty”
- “Yes, but with difficulty”
- “No”

The middle option (yes, but with difficulty) is very vague and does not distinguish between minor and major degrees of difficulty. A visual analog scale accommodates a broader range of possible answers with greater ease, and therefore gives a better representation of the assessed population. The use of the visual analog scale can also explain the greater degree of sensitivity to change shown by the BASFI. A scale allows for smaller changes to be identified than the 3 choice answer system.

Ruof et al (1999) have compared the responsiveness of BASFI, the Dougados Functional Index and the AS specific version of the Health Assessment Questionnaire. They conducted a double-blind, placebo-controlled study. 174 patients were included and received either a placebo, vitamin E or diclofenac. The authors found BASFI to be more responsive than either of the other two indices for both improvements and deterioration. The authors suggested that this is because the BASFI demonstrates a better baseline distribution pattern and the visual analog scale allows for greater sensitivity. This supports the findings of Calin et al (1994).

To conclude, the BASFI is quick, easy, reliable and sensitive to change across the whole disease spectrum (Calin et al, 1994).

# The Bath Ankylosing Spondylitis Functional Index (BASFI)

Please draw a mark on each line below to indicate your level of ability with each of the following activities during the past month

**PLEASE CHECK, IF YOU DOWNLOAD ANY BATH INDICES, THAT ANY 10 CM LINES ON THE INDICES, DO PRINT AS 10 CM IN LENGTH. IF THEY DO NOT, THIS CAN AFFECT ACCURACY OF SCORING.**

HOW DO YOU FIND:

score out  
of 10

<b>1</b>	<b>Putting on your socks or tights without help or aids (eg sock aid)?</b>	
	EASY _____ IMPOSSIBLE	<div style="border-bottom: 1px solid black; height: 60px; width: 100%;"></div>
<b>2</b>	<b>Bending forward from the waist to pick up a pen from the floor without an aid?</b>	
	EASY _____ IMPOSSIBLE	
<b>3</b>	<b>Reaching up to a high shelf without help or aids (eg Helping Hand)?</b>	
	EASY _____ IMPOSSIBLE	
<b>4</b>	<b>Getting out of an arm-less dining chair without using your hands or any help?</b>	
	EASY _____ IMPOSSIBLE	
<b>5</b>	<b>Getting up off the floor - without help - from lying on your back?</b>	
	EASY _____ IMPOSSIBLE	
<b>6</b>	<b>Standing unsupported for ten minutes without discomfort?</b>	
	EASY _____ IMPOSSIBLE	
<b>7</b>	<b>Climbing 12-15 steps without using a handrail or walking aid (one foot on each step)?</b>	
	EASY _____ IMPOSSIBLE	
<b>8</b>	<b>Looking over your shoulder without turning your body?</b>	
	EASY _____ IMPOSSIBLE	
<b>9</b>	<b>Doing physically demanding activities (eg physio exercises, gardening, sport)?</b>	
	EASY _____ IMPOSSIBLE	
<b>10</b>	<b>Doing a full day's activities at home or at work?</b>	
	EASY _____ IMPOSSIBLE	
<b>TOTAL OUT OF 100</b>		<div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div>
<b>TOTAL / 10 (BASFI SCORE)</b>		<div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div>

## BASFI Score Calculation

Score from all questions are calculated using a ruler and added. This figure is divided by 10 to obtain an average. This is the BASFI score. The higher the BASFI score, the more severe the patient's limitation of function due to their AS.

### **Please Note:**

When using visual analog scales of a set length (10cm in the case of the Bath Indices), great care must be taken in reproducing assessment paperwork as repeated photocopying, for example, may distort the length of the lines and therefore will affect the accuracy of the scoring.